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Full Name of Author — Nom complet de l'auteur

Marjorie Adella McLEOD

Date of Birth — Date de naissance	Country of Birth — Lieu de naissance
Sept. 20, 1921	Canada

Permanent Address — Résidence fixe

11535 - 75 Ave
Edmonton, Alberta
T6G 0H9

Title of Thesis — Titre de la thèse

The Identification of Intended Learning Outcomes by Early Childhood Teachers: An Exploratory Study

University — Université

U. of Alberta

Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée

Ph. D

Year this degree conferred — Année d'obtention de ce grade	Name of Supervisor — Nom du directeur de thèse
1981	Dr. Jean H. Young

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THE IDENTIFICATION OF INTENDED LEARNING OUTCOMES BY EARLY CHILDHOOD TEACHERS: AN EXPLORATORY STUDY

by

© MARJORIE ADELLA McLEOD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF ELEMENTARY EDUCATION

EDMONTON, ALBERTA

FALL, 1981

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR Marjorie Adella McLeod

TITLE OF THESIS The Identification of Intended Learning Outcomes By Early Childhood Teachers: An Exploratory Study

DEGREE FOR WHICH THESIS WAS PRESENTED Doctor of Philosophy

YEAR THIS DEGREE GRANTED 1981

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(Signed) Marjorie A. McLeod

PERMANENT ADDRESS:

11535 75 Avenue,
Edmonton, Alberta,
T6G 0H9
Canada.

DATED October 5 1981

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled The Identification of Intended Learning Outcomes By Early Childhood Teachers: An Exploratory Study submitted by Marjorie Adella McLeod in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Elementary Education.

.....
Supervisor

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.....

.....

.....
External Examiner

Date October 5, 1981

ABSTRACT

The primary purpose of this exploratory study was to investigate the identification of intended learning outcomes, as one component of curriculum, by teachers who were engaged in classroom curriculum development. The researcher was interested not only in the preactive curriculum plan, but also in the "curriculum-in-action" which emerges during interaction with learners in a classroom.

A second purpose of the study was to explore the use of stimulated recall for classroom curriculum research. It was assumed that the methodology, which has been used successfully in studies of teaching, might also yield important information about the processes by which practicing teachers develop their curricula.

Seventeen randomly-selected Kindergarten teachers employed by both public and private Early Childhood Services program operators, located in or near a large urban community in Alberta, participated in the study.

Previous research had identified four stages during which specific intended learnings are identified by teachers. Two preactive stages, occurring prior to instruction, involve the identification of specific learnings either before the learning activities are selected or after they have been selected. A third stage occurs interactively, i.e., during instruction, while the fourth is postactive, i.e. after the act of instruction has been completed.

The data for the study were gathered by means of stimulated recall interviews which focused on a previously videotaped 20-to 30-minute segment of a teacher-directed instructional activity planned and carried out by each of the subjects in their classrooms. A standard interview schedule elicited the intended learning outcomes (ILO's) identified by subjects before, during and after the filmed activity.

The interview transcripts were coded to determine the number and kinds of ILO's identified by subjects at each of the four stages. An observed stage ratio was calculated comparing each subject's preactive and interactive ILO's.

The findings from this study showed that most of the teachers used all four stages and that all subjects used preactive Stage I and interactive Stage III. The interactive stage accounted for the largest proportion of ILO's and cognitive outcomes were found to dominate all four stages except for Stage III (interactive).

ILO's intended for the entire class greatly outnumbered those for individuals or small groups. Information about individuals, small groups or children in general, served as a basis for less than half of the ILO's identified in the study. Information about individuals used as a basis for identifying ILO's, and ILO's intended for individual children, appeared more often during the interactive stage than in the two preactive stages combined.

The strongest influence on preactively identified ILO's seemed to be the subject's perceived requirements of the Grade One curriculum. Subjects with the most experience in primary grades appeared to be the most concerned with these requirements; they also tended to favour the preactive identification of ILO's. A relationship was suggested between increased use of interactive and postactive stages and a greater use of observation of learners as a basis for further planning.

The data showed that teachers were often not aware of which stages they used to identify ILO's and that the stimulated recall interviews had served to raise their level of awareness. Stimulated recall was also found to be a useful investigative tool for the study of classroom curriculum development during the interactive and postactive stages.

ACKNOWLEDGEMENTS

A project such as this could not have been attempted or completed without the assistance and encouragement of many individuals. The writer wished to acknowledge and express appreciation for the contributions of the following:

Dr. Jean Young who gave so generously of her time and expertise over a period of three years in order to creatively challenge the direction of the study and to provide the insightful criticism and enthusiastic support which resulted in its completion;

Dr. M. Horowitz, Dr. A. MacKay, Dr. M. Jenkinson and Dr. L. Stewin, for the support and encouragement which they provided when the research was proposed and again when it was finished;

Dr. P. McFetridge for her continuing interest and support both as department chairman and member of the final thesis committee;

Dr. H. I. Hastings and senior officials of Alberta Education, for granting the necessary leave so that the study could be pursued;

The seventeen very dedicated teachers who participated in the main study, as well as those who took part in the pilot study;

Professional colleagues, David Jeffares and Patti Shanahan, for assisting with the coding, and Sharon McGinitie for the accuracy and promptness of the typing;

Margaret and Graham McLeod, for the sacrifices made to assist with what appeared at the time to be insurmountable obstacles;

The writer's husband, Archie, for his encouragement and patient understanding throughout the project, and other family members for their support, in particular the grandchildren, Nathan, Aaron, James, Shannon, Doug and Bill, for having forfeited so many extended family benefits while this research project was being completed.

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Chapter I

INTRODUCTION AND STATEMENT OF THE PROBLEM

It is generally accepted today that teachers are expected to be involved in the development of curricula at the provincial, regional and local level. Pylypiw (1974) claims that:

> The emphasis in Canada has shifted from a view of curriculum development as something which is done for and given to teachers, to a position which considers teachers to be responsible for developing their own curricula. (p. 2)

It is further recognized that this involvement is greatest at the classroom level. Zais (1976) states:

> In spite of constraints of teachers' limited knowledge of curriculum work, their apparent indifference to curriculum responsibilities, and their lack of time, their ultimate control over curriculum at (the) point of implementation is a fact. (p. 477)

Miel (1973) advocates the involvement of classroom teachers in curriculum development: "At best, the given curriculum is a resource for teachers . . . further curriculum planning is called for at the classroom level to adjust it to the children" (p. 109). Adjustment of a curriculum to meet the needs and interests of a particular group of children, Miel argues, can only be done by the teacher through careful observation of children during interaction which takes place in the classroom.

The belief that teachers are ultimately responsible for their own curricula is expressed even more strongly by Berry, Friesen and Hersom (1971) who suggest that ". . . the real maker of curriculum, the decider of decisions, the answerer of questions, is the teacher in the

classroom after the door is closed" (p. 4).

Background and Need for the Study

Teachers, whether they recognize it or not, are in fact deeply involved in the process of curriculum development at the classroom level. Research in curriculum development, however, has tended to ignore what goes on in classrooms and has concentrated on studies of curriculum development at higher levels of organization. Consequently, little is known about the curriculum development patterns used by classroom teachers (Goodlad, 1969).

The identification of intended learning outcomes is one component of the curriculum development process. Most curriculum theorists agree that it is probably the most critical part of the entire process. Some would also argue that the specification of desired outcomes must always precede a consideration of the means of instruction.

For example, Tyler (1940) proposed a model of curriculum development which begins with the determination of objectives. The Tylerian, or linear, model has enjoyed wide acceptance in education and has seldom been challenged when it is used for the development of curriculum outside of the classroom. There is some question, however, whether teachers follow this linear pattern at the classroom level.

Macdonald (1965b) pointed out that although teachers may seem to accept the rational approach regarding the statement of objectives as a first step in educational planning, the linear model bears little resemblance to what teachers actually do. Eisner (1967) claims that

effective teachers often select activities which appeal to them and after examining the activity, identify specific objectives.

Many early childhood educators (Horowitz, 1970; Jones, 1970) would agree with Miel (1973) that the Tylerian model is being challenged at the classroom level by those who consider its linearity an obstacle to meeting children on their own ground. Miel presents an argument for identifying objectives through contact with pupils using an approach which she calls "planning in the round" (p. 108).

Herrick (1965) also disagrees with the linear approach and emphasizes the need for teachers to focus on the child in developing curriculum. He claims that "the scope of the curriculum consists in the child's world at the moment" and the sequence is determined "by the conscious continuity of the child's learning experience" (p. 47).

Several studies (Pylypiw, 1974; Oberg, 1975; Boniferro, 1976) have also challenged the linear model when applied to classroom curriculum development. These researchers reported that the teachers whom they studied seldom used the specification of educational objectives as the starting point for developing their curriculum plans.

Pylypiw (1974) carried out a descriptive study of classroom curriculum development which involved forty grade four, five and six teachers working in the field of Social Studies. Finding the linear model to be inadequate for the purpose of describing what teachers actually did, he proposed an alternative model composed of five phases:

1. the starting point;
2. the specific objectives phase;

3. the specific instructional design phase;

4. the interactive phase; and

5. the outcomes phase (p. 32-24).

He went on to explain that the Interactive Phase represents the point at which the teacher and pupils begin to interact, with or without pre-determined specific objectives having been identified.

> In the event that specific objectives have not been identified prior to entering the interactive phase, they may be identified during the interactive process. It is also possible, during interaction to modify, delete from and add to the specific objectives which had been determined prior to entering this phase. (p. 35)

Pylypiw identified four distinct classroom curriculum patterns each of which involved the identification of specific objectives at different stages.

Pattern 1

After selecting a general area of concern, the teacher identifies specific objectives which are expected to materialize as outcomes. In other words, these objectives serve as inputs for the planned instructional sequence.

Pattern 2

After selecting a general area of concern, the teacher moves directly into planning an instructional sequence which emphasizes activity and student involvement. When the instructional plan is complete, the teacher identifies the specific objectives to be achieved. (Both Patterns 1 and 2 are located in the preactive phase.)

Pattern 3

After having selected an area of concern at the Starting Point, the teacher moves directly into the interactive phase. If the learning experience is allowed to simply evolve, no specific objectives or instructional sequences would be identified and therefore no evaluation of outcomes would take place. It is also possible that specific objectives and instructional sequences would be identified through interaction with the pupils.

Pattern 4

After the instructional sequence is executed, the teacher reflects on what took place during interaction and identifies the specific learnings which occurred. If a specific learning that has not taken place is identified, the teacher may move to Pattern 1 in order to complete the sequence (p. 37-40).

Pylypiw reported that Pattern 1, which follows the linear model, was used approximately one-quarter of the time by the forty grade four, five, and six teachers in his study. The combined use of Patterns 3 and 4, was in evidence slightly more than half of the time. He concluded that as much classroom curriculum development occurs during and following interaction as prior to the actual teacher-pupil involvement. He also found that younger teachers with fewer than five years of teaching experience were found to favour the use of the linear model (Pattern 1), while teachers who were older and who had more experience showed less preference for this approach. He concluded that with age, experience and the accumulation of knowledge, the security level

increases so that the teacher feels "sufficiently strong to make greater use of a variety of curriculum development patterns" (p. 149).

Pylypiw gathered the data for his study, not by direct observation, but by the use of questionnaires and interviews. Consequently his findings are based on retrospective self-analysis by teachers about what they perceived themselves to do when they developed curricula for their Social Studies classes.

Oberg (1975) and Boniferro (1976) also challenged the traditional linear model of classroom curriculum development. They used questionnaires and a computer program to analyze the preactive curriculum planning of teachers. No attempt was made to determine whether intended learning outcomes identified preactively by the teachers in these studies were modified, added to, or discarded during the interactive phase of teaching. Oberg's study involved curriculum plans for a language arts lesson in a simulated grade two classroom, while Boniferro investigated the curriculum planning of forty Kindergarten teachers. Like Pylypiw, neither Oberg nor Boniferro gathered any of their data in the classroom.

Research on teaching and instruction, on the other hand, has often been conducted in classrooms. There exists a vast array of observation forms and procedures for classifying and quantifying both student and teacher behavior (Dunkin and Biddle, 1974). A recent development in the study of teaching has been the notion of investigating the covert mental behavior of teachers during the interactive phase of teaching by using stimulated recall methodology (MacKay and

Marland, 1978). This method involves videotaping a segment of instruction followed by an interview during which the teacher views the film and is asked to recall what he or she was thinking while the interaction with students was taking place.

The present study was designed to further investigate the processes by which teachers identify intended learning outcomes and at the same time, explore the use of stimulated recall methodology for curriculum studies. It was expected that a technique which is having some success in research on teaching might also be applied successfully to research on classroom curriculum development. After reviewing current research on teach er thinking which employed stimulated recall methods, Clark and Yinger (1977) suggested that:

> The most exciting possibility is that research on teacher thinking may unite the concerns of researchers on instruction and teacher behavior with those of researchers on curriculum. (p. 301)

Purposes of the Study

The primary purpose of this study was to investigate the identification of intended learning outcomes by teachers who were engaged in classroom curriculum development. This included determining when the intended learning outcomes were identified -- preactively, interactively, or postactively -- and discovering whether teachers were aware that they identified intended learnings at different points in time.

An attempt was also made to determine the relationship between the focus on children, which is a requirement of contemporary child-

centered programs, and the stages at which intended learning outcomes are identified by early childhood teachers.

A secondary purpose of the study was to explore the use of stimulated recall methodology to investigate curriculum development at the classroom level.

Research Questions

The following questions served as a framework for the investigation.

1. At what stages do teachers identify intended learning outcomes?
2. What are the differences, if any, in the intended learning outcomes identified at different stages?
3. Are teachers aware that they identify intended learning outcomes at different stages?
4. To what extent is the identification of intended learning outcomes related to information obtained from observation of the learner(s)?
5. Are there any reasons, other than the need to focus on the learner, for identifying intended learning outcomes at different stages?
6. What teacher background variables are related to the stages at which intended learning outcomes are identified?

Definition of Terms

The major terms used throughout the study are defined below. Other terms will be defined in context as they appear.

Curriculum plan:	the purposes and learning experiences which are part of the teacher's preactive planning and which serve as a point of departure for instruction.
Curriculum-in-action:	the purposes and learning experiences which emerge during instruction from the interaction of the teacher and the learner.
Intended learning outcomes:	the cognitions, cognitive skills, psychomotor-perceptual skills, affects and social/group behaviors which the teacher wants or expects a pupil to learn as a result of the learning experiences provided in an educational program.
Preactive stage one:	before the learning activities are planned and prior to instruction.
Preactive stage two:	after the learning activities have been planned and prior to instruction.
Interactive stage:	during instruction - while the learning activities are taking place.
Postactive stage:	after instruction - while the teacher is reflecting upon behaviors and events which were observed during instruction.

Significance of the Study

This study was undertaken because little is known about the processes by which teachers develop their classroom curricul Its principal value therefore lies in what it contributes to present knowledge of curriculum development and to curriculum theory.

First of all, the study could provide further evidence whether or not the linear model of curriculum development is appropriate for explaining what teachers actually do when they engage in classroom curriculum development.

Secondly, teachers are often admonished to build curricula

which are based on the needs, interests and real experiences of children. This requires them to identify specific learning outcomes out of the immediate conditions surrounding the learner, conditions which are constantly changing. It almost seems that the curriculum has to be developed and implemented simultaneously. This study could provide important information about the processes involved in developing a child-centered curriculum.

Thirdly, this study should have implications for teacher education. Prospective and practicing teachers may need to be more aware of when and how they identify learning outcomes if they are to have a rational basis for their curricular decisions.

Fourthly, this study could demonstrate the usefulness of the stimulated recall methodology for curriculum research and open up a new approach to studying the "curriculum-in-action" in the classroom.

And finally, because of its exploratory nature, the study could lead to the formation of further hypotheses and thus stimulate further research into the curricular decision making of teachers during the preactive, interactive and postactive phases of teaching.

Outline of the Study

This chapter has presented the theoretical background supporting the study and discussed some of the research which led to the formulation of the research problem. The purposes of the study were outlined and the research questions which guided the data collection were stated. Major terms were defined and the significance of the study was discussed.

Chapter II presents a review of curriculum literature and research as background for the study and leads to the conclusion that challenges to the linear model of curriculum development have provided very little in the way of alternative models for teachers to follow. A second section of the chapter reviews the literature and research on the use of stimulated recall in studies of the thought processes of classroom teachers.

Chapter III describes the research design, the subjects involved in the study and the methods of investigation employed. Results of the pilot study and the procedures used to collect and analyze the data are reported. Major assumptions and limitations associated with the research methodology are also discussed.

Chapter IV presents the results of the investigation and reports the findings related to the research questions and to the secondary purposes of the study.

Chapter V contains the discussion of the findings and the conclusions, while Chapter VI provides a summary and some recommendations for further research.

Chapter II

REVIEW OF RELATED LITERATURE AND RESEARCH

This study had two purposes:

1. to investigate the identification of intended learning outcomes by teachers who are engaged in classroom curriculum development; and
2. to explore the use of stimulated recall methodology for curriculum research at the classroom level.

Consequently, the review of literature and research will be divided into two sections. The first will deal with curriculum development theory and research, while the second will present a review of the literature and research on the use of stimulated recall in studies of teacher thinking. Only findings which may have significance for the present study will be reported.

Curriculum Development and Intended Learning Outcomes

The literature on curriculum development and classroom curriculum planning has, until quite recently, tended to be mainly prescriptive. Although abundant, most of this literature, according to Pylypiw (1974), could be classified under the heading of untested opinions rather than theory which is an outgrowth of research. A major debate continues to take place with regard to the different interpretations of "curriculum". Some mention of the curriculum -- instruction dichotomy is necessary to establish a background for the way in which the words "curriculum" and "intended learning outcomes" will be used in this study.

Defining Curriculum

There are many definitions of curriculum. Some curriculum writers make a clear distinction between curriculum as the outcomes to be achieved by an educational program and instruction as the means of achieving them. Curriculum used in this sense always precedes instruction since the ends must determine the means.

Johnson (1967, 1969) represents the most extreme position among those who do not consider instruction to be part of the curriculum. For Johnson, Macdonald (1965a), and Beauchamp (1972), a curriculum is a plan for subsequent action, a plan which guides instruction but does not include it.

> Curriculum is a structured series of intended learning outcomes. Curriculum prescribes (or at least anticipates) the results of instruction. It does not prescribe the means, i.e., the activities, materials or even the instructional content, to be used in achieving the results. (Johnson, 1967, p. 130)

Macdonald (1965a) also deals with the problem of the distinction between curriculum and instruction and offers a solution which includes definitions not only for curriculum and instruction but for teaching and learning as well:

> Thus, teaching is defined as the behavior of the teacher, learning as the change in learner behavior, instruction as the pupil-teacher interaction situation and curriculum as those planning endeavors which take place prior to instruction. (p. 6)

Beauchamp (1972) also subscribes to the distinction between curriculum and instruction when he states: "A curriculum is a

document designed to be used as a point of departure for instructional planning" (p. 19).

Many writers seem to be uncomfortable with making such a clear distinction between curriculum and instruction or between the plan and the experience. Krug (1956), Ragan (1960) and the Tanners (1975) define curriculum as the planned learning experiences offered in a school, while Koopman (1966) calls it "the learner's environment in motion". This last definition, Koopman claims, downplays the teacher's domination of the learning situation and places the emphasis instead on "the learner's readiness, initiative, perception and actual experiences" (p. 8).

A less extreme position is taken by Taba (1962). Although she defines curriculum as a plan for learning (not necessarily written), rather than the planned learning experiences offered in a school, she draws only a very hazy distinction between activities that are of concern in curriculum and those that belong in the realm of teaching and instruction. Taba writes, "A sharp distinction between method and curriculum seems unfruitful" (p. 9).

Zais (1976) believes that several definitions of curriculum may be needed and that, rather than claiming one definition to be more right than another, the definition "that is most useful in achieving the purposes of the situation at hand" (p. 14) is the one that should be regarded as correct for that particular situation.

Zais claims that the argument about whether the curriculum should consist of content (what is to be experienced) or activity

(how it is to be experienced) is a spurious one. He agrees with Dewey that the distinction between content and learning activity is not "a separation in reality but a separation in thought" (p. 352). Zais goes on to say that in a functioning curriculum, as distinguished from the inert curriculum plan, content and learning activities always exist as one. He describes the functioning or live curriculum in the following words:

> If we observe a particular classroom in operation, are we not able to "see" the curriculum functioning? Are we not able to "see" the class move toward certain goals, employ certain content, or engage in certain activities? (p. 11)

The distinction made by Zais between the curriculum plan and the curriculum-in-action seems to solve the dilemma of having to define curriculum either as a plan which guides instruction or as the experiences offered when a curriculum plan is implemented. The researcher finds Zais' view to be a useful one for the purposes of this study. Therefore, the following definitions of curriculum will be used:

(a) curriculum plan: the purposes and learning experiences which are part of the teacher's preactive planning and serve as a point of departure for instruction.

(b) curriculum-in-action: the purposes and learning experiences which emerge during instruction from the interaction of the teacher and the learners.

The researcher assumed that intended learning outcomes could be identified by a teacher when developing the curriculum plan and the curriculum-in-action. It was also recognized that intended learnings might be identified either deliberately or spontaneously and that they need not be in writing in order to be considered intended learning

outcomes for the purposes of this study.

The Significance of Educational Objectives

Curriculum development and curriculum planning are phrases which have been used almost synonymously by curriculum theorists. It is generally recognized that, although different meanings are sometimes attached to them, both processes have an important common component--the specification of educational objectives.

Bobbitt (1918, 1924) who is often called the father of curriculum theory, listed one hundred and sixty major objectives in his book, How to Make a Curriculum. These objectives ranged from "the ability to use language" to the "ability to entertain one's friends" (cited by Eisner, 1967, p. 252).

Charters (1923) whose work coincided with that of Bobbitt, created a seven part curriculum development model which began with the recommendation: "First, determine the major objectives of education by a study of the life of man in its social setting" (p. 102).

This early curriculum movement, according to Eisner (1967), collapsed under its own weight by the early 1930's.

> Teachers could not manage fifty highly specified objects, let alone hundreds. And, in addition, the new view of the child, not as a complex machine but as a growing organism who ought to participate in planning his own educational program, did not mesh well with the theoretical views held earlier. (p. 252)

The importance attached by Bobbitt and Charters to the specification of objectives was, however, already firmly established, and with the decline of the Progressive Movement in the late forties

and fifties, curriculum specialists took up once more the cause of educational objectives and "began to lay down guidelines for their formulation" (Eisner, 1967, p. 233).

Tyler (1950) proposed a model for curriculum development which has had a tremendous impact on the way curricula have been developed by and for teachers over the last three decades. Tyler's model, which represents a scientific rational approach and is usually referred to as the traditional linear model, admonishes teachers to begin all curriculum planning with the specification of precise objectives.

The Tylerian model differs very little from the one recommended by Bobbitt and Charters. Essentially it consists of four steps:

1. Specify objectives;
2. Select learning activities;
3. Organize learning activities;
4. Specify evaluation procedures.

The work of Tyler was given considerable impetus by Bloom et al (1956) who helped to operationalize the model by building a taxonomy of educational objectives in the cognitive domain. This was followed by a similar effort in the affective domain by Krathwohl, Bloom and Masia (1964).

Taba (1962) expanded the four steps to seven, suggesting that the diagnosis of needs should precede all curriculum development. Curriculum planning, for Taba, is characterized as a task that requires orderly and careful thinking and her model is proposed as a

rational and scientific method for accomplishing the task.

Although Taba's concept of "needs assessment" implies something that occurs prior to the specification of objectives, Popham (1971) argues that assessing educational needs is essentially equivalent to the process of identifying educational goals:

> First a desired learner outcome is identified. Second, the learner's current status with respect to that outcome is ascertained. The difference between the current status and the desired status is considered to be an educational need. (p. 23)

It follows then, from Popham's reasoning, that when a teacher makes an instructional decision because of the belief that a student or students "need" to learn something, the teacher is actually making a judgment about "intended learning outcomes".

There seems to be little agreement about the degree of specificity that is desirable in the statement of objectives. Nevertheless, whether one holds the view that objectives need only be stated in general terms like Bobbitt's "the ability to use language," or whether they must be specified in precise behavioral terms (Popham and Baker, 1970), it is difficult to question the significance of educational objectives or the impact of the Tylerian model on the theory and practice of curriculum development.

Challenges to the Linear Model

Opposition to the Tylerian model of curriculum development arose more because of its linearity rather than because of the importance which it attaches to the specification of objectives.

Macdonald (1965b) argues that objectives are known to us in any complete sense only after the completion of the act of instruction. "No matter what we thought we were attempting to do, we can only know what we wanted to accomplish after the fact" (p. 613). He claims that while teachers may accept the traditional approach regarding the statement of educational objectives as the first step in educational planning, the model bears little resemblance to what they actually do:

> In the final analysis, it could be argued, the teacher in actuality asks a fundamentally different question from "What am I trying to accomplish?" The teacher asks "What am I going to do?" and out of the doing comes the accomplishment. (p. 614)

Kliebard (1970) expresses a similar view in his criticism of the Tylerian model:

> The starting point for a model of curriculum and instruction is not the statement of objectives but the activity (learning experience), and whatever objectives will arise within that activity as a way of adding a new dimension to it. (p. 268)

Eisner (1967) also challenges the linear model claiming:

> The dynamic and complex process of instruction yields outcomes far too numerous to be specified in behavioral and content terms in advance . . . (and)
>
> educational objectives need not precede the selection and organization of content . . . . Curriculum theory needs to allow for a variety of processes to be employed in the construction of curriculums. (p. 254-255)

Eisner (1969) coined the phrase "expressive objectives" to define objectives that arise during an educational encounter. The emphasis, concludes Pylypiw (1974), is on developing a setting and situation that leads to interaction among the components located in

the environment and "out of this interaction specific learnings result" (p. 22).

Jackson (1968) studied a group of twenty effective teachers and concluded that teachers are more concerned about student involvement in activity than in student learning. Teachers, he decided, behave as though they expect learnings to occur almost as by-products of their and the students' activity.

Both March (1972) and Miel (1973) recommend that we look for alternatives to the traditional model of curriculum development which are more consistent with what teachers do. March warns against a constant diet of decision-making which must always begin with the establishment of objectives. Miel claims that many teachers prefer to identify objectives while they are in contact with students, using their ideas to determine which direction to take and engaging in a type of "planning in the round" (p. 108).

There is some evidence that an overemphasis on pre-selected objectives and strategies as recommended in the rational planning model is not only unrelated to reality, but that it may even be counter-productive to some of the broader goals of education.

For example, Zahorik (1970) carried out the first empirical study of classroom planning when he examined the effect of structured planning on teacher classroom behavior. He found that teachers who planned exhibited less honest use of pupils' ideas during the lesson than did non-planners. Zahorik concluded that the rational planning model -- goals, activities and their organization, and evaluation --

"result in insensitivity to pupils on the part of the teacher" (Clark and Yinger, 1977, p. 281).

The Search For Alternative Models

A number of studies which involved classroom teachers have been conducted for the express purpose of developing an ontological model for curriculum development which would bear a closer resemblance to the realities of what happens in classrooms than does the more widely accepted linear model.

Ammons (1964) investigated the relationship between process and product in curricula developed by one hundred and seventy primary and intermediate school teachers. She found that instructional programs were developed on the basis of what the teachers had done in the past. A consideration of the educational objectives of the school did not figure significantly in the processes used to develop their plans, nor was their use of objectives related to grade level, tenure or the teacher's previous experience in curriculum development projects.

McLure (1965) conducted a study of the curriculum planning of elementary teachers; an early childhood group, a lower elementary group and an upper elementary group. He studied the procedures used to develop educational objectives and evaluated the objectives as to their precision, significance and their attainability. McLure found that the early childhood group outperformed the other groups in all three areas evaluated. They succeeded best in relating general statements about children to information about children in their classrooms and they spent more time validating their objectives. He found

however, that their objectives lacked operational definition of content and behavior, i.e., they had difficulty translating broad goals into instructional objectives.

Goodlad and Klein (1970) carried out a study which involved one-hundred and fifty elementary classroom teachers and found that the majority was more concerned with the coverage of certain material than with the specification of pupil behaviors which were being sought.

Taylor (1970) conducted a study of teacher planning in British secondary schools and identified four factors which teachers tended to consider when planning, in the following order of importance:

1. factors associated with the teaching context (e.g., materials and resources);
2. pupil interest;
3. aims and purposes of teaching; and
4. evaluation considerations.

Rather than using the traditional model, the teachers in Taylor's sample began with the context of teaching, then considered the learning situations most likely to interest their students, and only after this was any consideration given to the purposes to be served.

Zahorik (1975) examined the use of behavioral objectives by 194 teachers. He asked them to list the decisions they made prior to teaching in the order in which they were made. He found that 81 percent made more decisions concerning pupil activities than any other type and that the decision most frequently made first was content (51 percent) followed by only 28 percent who reported having considered behavioral objectives first. Zahorik concluded that teachers' planning decisions

seldom follow logically from the specification of objectives and that, from the viewpoint of quantity of use, objectives are not a particularly important planning decision.

While all of these studies continued to challenge the linear model, they offered very little in the way of alternative models.

One of the first writers to propose an alternative to the linear model was Walker (1971) whose naturalistic model of curriculum development is composed of three elements: the platform, the deliberations and the design. The curriculum developer begins with the system of beliefs and values that he brings to the task which Walker calls the curriculum's platform. The second component, the deliberation, consists of the formulation of decision points and alternative choices, "considering arguments for and against suggested decision points and decision alternatives, and, finally, choosing the most defensible" (p. 54). The output of the deliberations does not lead to a list of objectives but to a set of design decisions. The curriculum's design is defined as "the set of relationships embodied in the materials-in-use which are capable of affecting students". Walker argues that these "materials-in-use" must be the concern of the curriculum specialist rather than the materials themselves. The naturalistic model is based on reports of several curriculum projects and on Walker's own observation and study of a major project. Like the linear model which it is designed to replace, Walker's model also tends to be more prescriptive than descriptive. It does however, add one more piece of evidence to the claim that "Objectives are not a starting point but a late development of the curriculum maker's platform" (p. 59).

Pylypiw (1974) developed a tentative classroom curriculum development model on the basis of

> The components of the traditional model, the naturalistic model and on the many recommendations made by critics in an attempt to improve the traditional model. (p. 32)

A classroom curriculum planning sequence according to the Pylypiw model always begins, like Walker's, with a "starting point" which he describes as a general area of concern or area of concentration. The starting point might conceivably be a topic or theme or a general objective of some kind. The specific learnings (objectives) could then be identified at four different stages:

1. immediately after the selection of the starting point (a linear approach);
2. after the planning of an instructional sequence but prior to instruction;
3. during the interactive phase while a planned or unplanned instructional sequence is being executed;
4. after the instructional sequence has ended (i.e., during the postactive phase).

While Pylypiw's model did not prove to be entirely satisfactory for describing the processes which the teachers in his study followed, he did conclude that "as much classroom curriculum development occurs during and following interaction as prior to the actual teacher-pupil involvement" (p. 148). Pattern 3, which involved the identification of specific learnings during the interactive process, proved to be the one used most often.

Oberg (1975) also developed an alternative to the traditional linear model of curriculum development which she characterized as a

particular type of problem-solving. She then used this model to investigate the curriculum planning processes of experienced and prospective classroom teachers in terms of: (a) information search; and (b) information utilization. Subjects were presented with a curriculum planning problem in a simulated primary grade classroom and were asked to develop a set of curriculum plans for a language arts lesson.

Oberg devised a computer program to guide the retrospective self-analysis of the subjects in her study and to help them analyze their own planning. Although subjects used a wide variety of problem solving strategies in their search for and utilization of information, no common patterns of curriculum planning were identified. Decision-making, Oberg found, did not follow the traditional model of curriculum development prescribed in the literature. She concluded that her "problem-finding" model provided a more satisfactory explanation of what teachers actually do when they develop their curriculum plans.

Boniferro (1976) using Oberg's computer program carried out a study of the curriculum planning of forty kindergarten teachers and attempted to describe the actual planning processes followed by these teachers in developing their preactive lesson plans. Like Oberg, Boniferro found that the preschool teachers who participated in the study approached the task of curriculum planning in a variety of ways. She also found the traditional linear model to be inadequate in representing the curriculum planning of the teachers in her study and concluded that Oberg's problem-solving model provided a more flexible framework within which to describe teachers' curriculum planning.

In spite of continued opposition to the Tylerian model by curriculum theorists and researchers, a more satisfactory model which may be applied to curriculum development efforts of teachers remains to be found. In the next section consideration will be given to an alternative approach for examining the processes by which teachers develop classroom curriculum. This approach, while relatively new, offers some intriguing possibilities for curriculum research within the classroom.

Studying Teachers' Thoughts -- Research and Method

The close relationship between curriculum, particularly the "curriculum-in-action" and teaching behavior cannot be ignored by curriculum researchers or by those who are concerned with the study of teaching. "The curriculum experienced by students is the product of both deliberate and spontaneous decisions made by teachers" (Leithwood, Ross, and Montgomery, 1978, p. 1). Efforts to understand teacher decision-making and to render it more effective may, in the long term, lead to improvements in both curriculum and instruction.

Whether the teacher is viewed as a clinical information processor, a decision maker, a planner, a diagnostician or a problem solver -- "the mental processes that underlie behavior are always the focus of study" (Clark and Yinger, 1977, p. 280). Studies which have investigated the covert mental behavior of teachers have depended upon teachers' self-reports of one kind or another. Methods used have ranged from questionnaires and interviews (Jeffares, 1973; Pylypiw, 1974), computer programs (Oberg, 1975; Boniferro, 1976) to "thinking aloud" procedures

in which a teacher speaks into a tape recorder while planning (Peterson, Marx, and Clark, 1978). The major weakness with all of these techniques is that they restrict the researcher to an examination of teacher behavior in the preactive setting. Efforts to investigate interactive mental processes have relied upon retrospective self-reports, a somewhat suspect data source. As Pylypiw himself warned, "there may be a significant gap between what classroom teachers perceive themselves to do and what in fact they practice" (p. 11).

Teacher Interactive Decision Making

Of all the metaphors applied to teaching that of a decision maker is one of the most compelling.

> The teacher is seen as a decision maker who is constantly assessing the situation, processing information about the situation, making decisions about what to do next, guiding action on the basis of these decisions and observing the effect of these actions on students. (Clark and Yinger, 1977, p. 292)

The problem encountered when research is focused on the interactive decisions of teachers is the problem of ensuring accuracy of recall. The teacher will probably recall the deliberate decisions made in a preactive setting more readily than spontaneous decisions made during instruction. In an effort to overcome the problem of accuracy of recall, stimulated recall techniques have been devised and used in a number of recent studies focusing on classroom behavior -- both teacher and pupil (Mireau, 1980; Tuckwell, 1980; and Wodlinger, 1980).

Stimulated Recall -- The Method

The method of stimulated recall is a relatively new development in educational research which gives promise of yielding important

findings about classroom curriculum planning in general and interactive decision making of teachers in particular. It consists of some variation of a procedure in which a videotape of a teacher's teaching performance is replayed to stimulate recall of the teacher's interactive thoughts. In some cases only short segments (2 to 3 minutes) of the videotape are replayed, while in other studies the entire taped segment is replayed.

In the latter case, the teacher is usually encouraged to stop the tape when he or she remembers having made a decision, or the researcher may control the stimulated recall interview by identifying "critical incidents" in the teaching segment and stopping the tape at these points.

In many studies (Clark and Joyce, 1975; Marx and Peterson, 1975; Clark and Peterson, 1976), a standard set of questions is used for the interview and the teacher's responses are audiotaped and transcribed. These responses may be described by using "a coding system and frequency counts, by a narrative process description, or by both" (Clark and Yinger, 1977, p. 292).

Although most of the work with stimulated recall has occurred in laboratory settings, an increasing number of studies are using stimulated recall procedures in naturalistic settings. Conners (1978) points out that there are a number of precautions to be observed by researchers to ensure the probability of accurate recall. These are related to the use of skillful questioning techniques; the development of supportive and empathetic rapport with the subject to be interviewed;

scheduling of the recall session not less than forty-eight hours after the event recorded; and ensuring that the interviewee is fully briefed concerning the goals and purposes of the research in order to gain his or her full cooperation during the interview.

Conners (1978) reports that there are three problem areas to be addressed when using stimulated recall.

1. Initial Contact with Subjects: The subject's perception of the value of the project, the demands it will make upon his time and his motivation to be involved in and committed to the project largely depend upon initial contact with the researcher/interviewer.

2. Classroom Familiarization Procedure: This involves getting to know the teacher and ensuring that the presence of the researcher and the video equipment would not interfere with normal classroom behavior.

3. Organizing and Preparing for Interviews: This includes arranging for the video-taping of the stimulus lesson and time for the interviews as well as arranging suitable facilities so that there would be no disruption which might inhibit the effectiveness of the stimulus and the accuracy of recall.

Conners further notes that when dealing with the validity of introspective data, there is no direct technique for establishing the validity of the subject's reported thoughts, and that validity can at best be inferred. Nevertheless he was satisfied that the teachers in his study were accurately recalling and reporting their thoughts associated with the stimulus points in the lessons videotaped. He concluded, as did Marland (1977), that validity and reliability of introspective data can be assumed but not demonstrated or guaranteed.

Research Using Stimulated Recall

While stimulated recall as a research tool does not have a long

history, the number of studies using stimulated recall procedures has increased significantly over the past ten years. The method has been used in several fields such as studies of teaching and learning (Bloom, 1954; Kagan, Krathwohl, Goldberg, and Campbell, 1967; Marx and Peterson, 1975; Morine and Vallance, 1975; Clark and Peterson, 1976; Elliott, 1977; Marland, 1977; Conners, 1978; Cooper, 1979; and King, 1979). It has also been used in the fields of medical education (Elstein and Shulman, 1971), clinical psychology (Kleinmuntz, 1968), and chess and symbolic logic (Newell and Simon, 1972).

Only studies which examined teachers' interactive decision making and whose findings include statements about objectives, goals, and decisions made as a result of teachers' observations of students or information derived from pupils will be reported here.

The earliest study of teacher interactive decision making using stimulated recall methodology, according to Clark and Yinger (1977), is reported by Clark and Joyce (1975), Marx and Peterson (1975), and Clark and Peterson (1976). It involved twelve experienced teachers who taught a social studies unit to three different groups of eight junior high students in a laboratory setting. Teacher interactive decision making was explored by showing each teacher four 2-3 minute videotaped segments of the day's teaching in order to stimulate recall of what he or she was thinking about while teaching. After viewing each segment, the teacher was asked to respond to questions about what the teacher was doing, what was being noticed, whether the teacher had instructional objectives in mind at the time, and whether anything in the situation caused the teacher to act differently than planned.

Primary findings of this study were that teachers were not trying to optimize instruction and that teachers rarely changed their strategy from what was planned even when things were going poorly.

Morine and Vallance (1975) used a stimulated recall task to identify the types of decisions made by forty second- and fifth-grade teachers categorized in a previous study as more effective and less effective. Three major types of decisions were identified: (1) decisions relating to instantaneous verbal interaction; (2) interactive decisions directly related to preactive decisions; and (3) decisions to include an activity not originally part of the lesson plan. Findings showed that ninety-six percent of all decisions made were in the first two categories. A general pattern was observed that teachers focused more on the instructional process rather than student characteristics or behavior when asked to comment on the substance of their decisions. When the bases for the teachers' decisions were referred to, however, the focus changed and student characteristics were more prominent than instructional process considerations. Other findings were that few decision alternatives were mentioned by the teachers and references to cognitive aspects of the lesson were more frequent than references to affective aspects.

Marland (1977) studied the interactive thoughts of six elementary school teachers using the stimulated recall interview technique. He used two different category systems to analyze the transcripts of the interviews. One content analysis system consisted of judging each "thought unit" to be in one of eleven categories. Marland found that interactive thoughts most frequently reported by teachers were:

prospective tactical deliberations (20.3 percent); reflections (18.8 percent); perceptions (15.6 percent) interpretations (11.9 percent) and anticipations (8.7 percent). Interactive thoughts concerning pupil information, information-other, and feeling each accounted for approximately 7 percent of the thoughts reported. Relatively few thoughts (2.7 percent) were categorized as goal statements.

Marland's data on the functions of teachers' interactive decisions indicate that four functions account for the majority of cases: (a) to correct or adjust the lesson that is not going well; (b) to deal with unpredictable parts of the lessons; (c) to regulate own behavior; and (d) to adapt instruction to individual students. He concluded that teachers rarely gave any consideration to their own teaching style, its effectiveness, and its impact on students. They tended to be "satisficers" rather than "optimizers", i.e., they did not tend to think about improving an instructional situation unless it was going poorly.

A similar study by Conners (1978) investigated teachers' cognitive processes during instruction in order to categorize and describe the beliefs, principles, rules and other factors that influence teachers' behavior during the interactive phase of teaching. Conners found that the nine teachers, three from each of grades one, three and six, showed marked similarities concerning their styles of information processing and the content of the information they processed. The majority of the teachers' thoughts was concerned with instructional tactics, perceptions and interpretations of student classroom behaviors, and information about student cognitive and affective characteristics.

Relatively few thoughts were related to lesson objectives or content.

Eight of the nine teachers in Conners' sample reported perceptions of student expressions which he describes as the subtle clues to pupil internal states such as frowns, smiles, and the "expressions" in their eyes. Since this finding is at variance with that of Marland (1977), Conners concludes that there is a need for further research to investigate the variety of cues attended to by teachers and in what situations the cues are influential.

Cooper (1979) also used stimulated recall techniques to investigate the types of information processed by four teachers and twelve pupils in grades four, five and six during mathematics instructions. She found that although the frequency of thought units recalled by teachers in each of ten categories varied, they all revealed a strong focus on deliberating future tactics, a finding that is consistent with Marland's 20.3 percent for prospective tactical deliberations. Cooper also found the average percentage of goal statements in teachers' recall of interactive thoughts to be low (4.9 percent) but considerably higher than the 2.7 percent found by Marland (1977).

Cooper sub-categorized the goal statements as affective and cognitive and analyzed the latter into three cognitive divisions. These divisions consisted of goals which the teacher had with regard to pupil thoughts or understanding, pupil attention or interest and pupil work. She also found that the goal statements were predominantly cognitive and represented more specific goals than those expressed in the preactive teacher interviews.

Summary

A review of related literature and research has presented some justification for using a dual definition of curriculum and for focusing the study on the identification of intended learning outcomes as an important part of the curriculum development process. It has also shown that, although there has been considerable opposition to the linear approach, research has provided few alternatives to the traditional model. Because previous curriculum research examining the preactive phase of curriculum planning has provided little in the way of knowledge of the processes involved in classroom curriculum development, there is a need for further research which focuses on curriculum developed during the interactive and postactive phases of teaching.

Current research on teachers' thought processes, using stimulated recall, gives promise of yielding important findings about how the curriculum-in-action is developed during instruction. The present study was designed with this purpose in view.

Chapter III

DESIGN AND PROCEDURES

The purpose of this chapter is to describe the research design and the methods of investigation employed in the study. The pilot study, the selection and description of the sample, and the strategies used to collect and analyze the data are also reported.

The Research Design

Little is known about the processes by which teachers develop the curriculum which is implemented with the children they teach. Previous studies have mostly examined only the preactive phase of curriculum planning. Because recent research into teachers' thought processes gives promise of yielding important findings about how the curriculum-in-action is developed during instruction, this study focused on the curricular decision making of teachers during the interactive and postactive phases of teaching. The project was planned as an exploratory study using a technique known as stimulated recall as the principal method of investigation.

The literature on research design tends to support exploratory studies carried out in naturalistic settings when significant variables and relations among variables are unknown. Rather than predicting relations among variables, the exploratory field study seeks to discover what these variables are. Its purpose is to lay the groundwork for later, more systematic testing of hypotheses (Kerlinger, 1973, p. 406).

Because of the lack of knowledge about how classroom curriculum is developed, an exploratory study was judged to be the most appropriate type of investigation for the purpose of approaching the research problem. Much of the data are descriptive since they were gathered in classrooms where variables can be described more readily than they can be controlled. No intervention by the researcher or the research design was planned.

Rationale for Using Stimulated Recall

Stimulated recall is a branch of introspective methodology in which audio and/or visual cues are presented to a subject who is asked to recall the thought processes which occurred when the presented cues or stimuli were actually happening. The method is by no means new. Bloom (1953) wrote, "the basic idea underlying the method of stimulated recall is that a subject may be enabled to relive an original situation with great vividness and accuracy if he is presented with a large number of cues or stimuli which occurred during the original situation" (p. 162).

There were several reasons for choosing stimulated recall interviews as the chief data source for this study. Previous studies which have investigated the covert mental behavior of teachers have relied upon teachers' self-reports of one kind or another and have been restricted largely to an examination of teacher behavior in the preactive or postactive setting. Efforts to investigate interactive mental processes have been limited by the retrospective nature of these reports and the problems associated with accuracy of recall when the subject is asked to remember not only what was happening but also

what the individual was thinking at the same time.

Since one of the purposes of this study was to compare the intended learning outcomes identified preactively with those that were identified interactively, it was necessary to find a way of capturing the subjects' thoughts while the interaction with and among children was taking place. The researcher was interested in the curriculum that was implemented in the classroom which is believed to be the "product of both deliberate and spontaneous decisions made by teachers" (Leithwood, Ross, and Montgomery, 1978, p. 1). It seems that a teacher would be more likely to recall the deliberate decisions made preactively rather than the more spontaneous ones which might arise during instruction. Stimulated recall, which facilitates recall of interactive thoughts, was therefore the most promising of the research tools available to investigate the interactive decision making of teachers in this study.

Population and Sample

The choice of early childhood (kindergarten) classrooms as the setting for the study was influenced by the fact that "at no other level of education does a teacher have so much freedom and so few constraints concerning content, method and expected outcomes" (McAfee, 1970, p. 20). In Alberta, furthermore, there are no provincially developed curricula for educational programs prior to Grade One. It seemed reasonable to expect therefore that teachers employed in these programs would be engaged in considerable curriculum decision making activity.

The name Early Childhood Services (ECS) is used to designate a publicly-funded pre-school program in Alberta. Such programs may be operated by public or private operators. Public operator is the term applied to a school division, school district, or school committee of a county which has been approved by Alberta Education to operate an Early Childhood Services program. Private operator, on the other hand, is used to designate an incorporated non-profit society or the board of an approved private school which has submitted an application to Alberta Education to operate an Early Childhood Services program and which meets the necessary conditions for the approval of such program.

Alberta Education, through its Early Childhood Services Branch which monitors all publicly supported preschool programs in the province, provides ECS operators with a philosophy and broad goals rather than a curriculum guide. Local programs are to be developed according to the needs of children and families which are presumed to vary considerably from one community to another (Alberta Education, 1973). Teachers, with the assistance of parents and local resource persons, bear the major responsibility for developing specific program objectives and planning the learning activities for children in these programs.

School jurisdictions which operate ECS programs tend to provide more guidance and assistance to their teachers in the area of curriculum and curricular resources than do the private ECS operators. For this reason, a stratified random sample of teachers was used in the main study so as to include both private and public operators in the sample.

The population from which the sample was drawn consisted of all the teachers employed in ECS programs located in a large southern Alberta city or within fifty kilometers of the city. The children in these programs were between five and six years of age at the time of the investigation. Although the original sample consisted of eighteen teachers, only seventeen of these teachers, all female, eventually participated in the main study.

The research was designed to investigate how and when teachers identify intended learning outcomes for the children they teach. Although using only early childhood teachers in the study might limit the generalizability of the findings, this factor was balanced by the desire to use a setting where teachers are believed to make many curricular decisions interactively as well as preactively. At no other level of education would this be as likely to occur as in the early childhood classroom. Jones (1970, p. 4) writes, "ideally the early childhood curriculum should emerge from each teacher's planful interaction with the individuals comprising a particular group of children."

The Pilot Study

A pilot study was conducted in two phases during the summer and fall of 1979 with a sample of twelve summer session students enrolled in a Curriculum and Instruction course for early childhood education majors in the Faculty of Education at the University of Alberta. The criterion for selection of the pilot subjects was that each one must have taught in a kindergarten or day-care program during the 1978-79 school year. There were several purposes for the pilot

study:

1. To determine whether the research questions could be answered by using three different data gathering techniques: questionnaires, interviews and stimulated recall interviews;
2. To identify and overcome any problems which might be encountered with procedures, such as interpretation of the questionnaire, the researcher's interviewing style, and the technical operation of the video and audio equipment; and
3. To determine whether the research questions were worth asking.

Phase One

A questionnaire was administered to the twelve pilot teachers which focused on the curriculum planning practices followed by them during the school year which had just ended. An interview was held with each of the subjects after the completed questionnaires had been examined by the researcher. The interviews followed a semi-structured format and the protocols were tape-recorded, transcribed and analyzed.

The purpose of the interview was to uncover any problems in interpretation of the questionnaire items by the subjects. It also provided an opportunity for the researcher to probe for the reasons which might underlie the responses given by the subjects in the completion of the questionnaire.

A significant number of the subjects confirmed the researcher's hypothesis that early childhood teachers decided many of the learning

outcomes which they hoped to achieve with their pupils while they were interacting with them in the classroom. The pilot subjects were quite articulate about the objectives they had in mind when they planned and carried out learning activities. Consequently a decision to proceed with the next phase of the pilot study was reached.

Phase Two

Three of the pilot teachers who had participated in Phase One were contacted in September and arrangements made to videotape thirty-minute segments of a teacher-directed activity in their respective classrooms. A stimulated recall interview was held with each teacher on the same day as the video-recording. These interviews were also audiotaped, transcribed and analyzed.

As a result of the pilot study the following factors were identified for further consideration:

1. The advantages and disadvantages of using a questionnaire, stimulated recall interviews or both as data sources;
2. Whether or not to use questions during the interviews which focused directly on the teacher's intended learning outcomes;
3. The importance of creating an empathetic and trusting relationship with the teacher.

Two observations were made during the second phase of the pilot study which provided encouragement and support for the continuation of the research. One was the willingness of participating teachers to share their planning practices and their interactive thoughts. The

other was the discovery that the presence of the researcher and the video equipment seemed to cause little or no disruption in the normal behavior of the teacher and the children in the classrooms visited.

After weighing the above factors a number of decisions were reached with regard to the design of the main study. The advantages of using stimulated recall interviews seemed to override all other considerations. Data gathered by means of a questionnaire would be subject to greater likelihood of misinterpretation as well as weaknesses associated with retrospective self-reports as a data source. Since all of the research questions could be approached through the stimulated recall interviews, plans to use a questionnaire in addition to the stimulated recall interviews were abandoned.

A second decision was to limit the time spent with individual teachers in favour of including more teachers in the sample. When teachers understand the purpose of the videotaping and the stimulated recall interviews, there seems to be little reason to believe that the length or number of visits to a particular classroom will significantly increase either the quality or quantity of data gathered.

It was also decided to focus the interview questions on the teacher's intended learning outcomes for the instructional activity that was to be filmed in each classroom.

And finally, it was decided that a second period of training in the use of the equipment and the interview format would be required prior to the commencement of the main study. Practice interviews and video-taping sessions were carried out in February, 1980 with three

volunteers in the Edmonton region, an area that was not included in the target population for the main study.

Data Gathering Procedures

Since one of the purposes of the study was to explore the use of stimulated recall methodology for curriculum research, the procedures used to gather the data constituted an important part of the investigation. Consequently they will be described in considerable detail here.

Selection of the Sample

An alphabetical list was compiled of all the public and separate schools in the city of Calgary which housed an ECS program. From this list and using a table of random numbers, the public operator sample of twelve teachers was drawn. If a school had more than one ECS teacher it was assigned as many numbers as there were teachers. Where a teacher taught half days in two schools, only one of the schools was listed. In this way, every ECS teacher had an equal chance of being selected for the study. Bilingual programs and special centers for handicapped children were excluded from the list before the sample was drawn. Five alternates were also selected at this time to replace any of the initial sample who might wish not to participate.

These same procedures were used to select a sample of six subjects and four alternates to represent the private operators. Because the sample had been stratified, there was proportionate representation from both types of programs, those operated by school boards and those operated by private societies. The lists from which the two

samples were drawn consisted of 151 teachers employed by public operators and 75 who were private operator employees.

There was no reason to believe that any major differences in professional qualifications might exist between the two samples since the same teacher qualification regulations apply to both groups of operators. An ECS teacher in any funded program in Alberta must possess a valid teaching certificate or a letter of authority, as well as an Early Childhood Services Diploma granted by the Registrar, Alberta Education, to teachers who complete at least five full university courses in the area of early childhood and related education. An Interim Permit is sometimes granted to certificated teachers who are in the process of completing the requirements for the early childhood specialization.

Teachers who were in their first year of teaching were not excluded from the sample since the researcher wished to use years of experience as one of the variables to be examined. Furthermore, since the data would be gathered entirely during the month of March, it was hypothesized that the phenomenon often referred to as first-year "jitters" would have minimal effect on teaching behavior examined in this study.

Introduction to the Subjects

A letter of introduction (Appendix A) was sent to the eighteen teachers who made up the initial sample. Twelve were employed by a public operator: nine by the Calgary Public School District and three by the Calgary Catholic School District. All twelve schools were

within the boundaries of the city. Of the six subjects selected for the private operator sample, three taught in centers located within the city and three were employed in smaller communities outside of Calgary but within a fifty-kilometer radius of the city.

The letter invited the subjects to participate in a research project designed to investigate the processes used by teachers as they go about developing their classroom curricula. An estimate was given of the time that would be involved for the researcher to visit the classroom, to videotape up to a half-hour segment of teacher-directed activity and to conduct a subsequent interview. The letter stressed that the objective for the visit was not to evaluate the teacher's performance or to disrupt the normal routine followed in the kindergarten. The sole purpose of the research, the letter stated, was to discover what patterns of curriculum development were used by the teacher.

Each subject was then contacted, within a week or ten days after the letters were mailed, to confirm her willingness to participate in the study or agree to have the project further explained before making a commitment. Several teachers were then visited in person by the researcher for this purpose. The question most frequently asked by teachers who were undecided was "Why me?" An explanation of the random method used to select the sample seemed to relieve any feelings of anxiety on the part of these subjects or the suspicion that there might be some hidden reason for their having been chosen.

All of the six subjects initially drawn for the private operator sample not only agreed at once to participate but seemed almost

delighted to have been asked. The researcher attributes this difference in attitude between the public and private samples to two factors. One is the relative professional isolation in which a teacher employed by a private society finds herself by reason of not belonging to a school staff. The second factor may be the pressures which are felt by employees of a large school system and the many demands made upon their time by principals, consultants and supervisors. Two of the teachers who formed part of the public operator sample taught mornings and afternoons in different schools. Class size may also have been a factor in some of the teachers' reluctance to participate since this tended to be somewhat larger in the publicly operated ECS centers than was the case for programs operated by private societies.

Even after central office personnel for the two Calgary school boards had granted permission for the researcher to contact their teachers, several difficulties were encountered in obtaining the consent of these subjects to take part in the study. Of the initial sample of twelve public operator-employed teachers, three declined, citing as their reasons that they had student teachers from the University of Calgary in their classrooms at that time or that they were already involved in other school projects which made heavy demands upon them. One teacher declined because of family pressures which made it impossible for her to remain after school hours for the interview.

A few school principals seemed to resist having their staff participate and in one case would not allow the researcher to visit the school or speak with the teacher by telephone, stating that they had discussed

the matter already and that the teacher had decided not to participate because of other system-wide projects in which she was involved. On the other hand, some principals were extremely helpful and even allowed the interviews to be conducted during school hours with a teacher's aide taking over responsibility for the children while the teacher was involved in the interview.

An attempt was made to maintain the proposed sample size of eighteen by contacting the five alternates whose names had been drawn at the same time as the initial public operator sample. Only two out of these five agreed to participate in the study. Consequently the final sample size was reduced to seventeen subjects, eleven representing public operators and six who were employed by private societies.

Stimulated Recall Interviews

Stimulated recall is a branch of introspective methodology in which audio and/or visual records of a subject's past behavior are used to facilitate the subject's recall of the covert mental activity which was occurring simultaneously with the recorded overt behavior.

The audio and visual stimulus used in this study consisted of 20 to 30 minutes of teacher and children's interaction during a planned teacher directed activity. The subjects were each advised to carry on as much as possible with what they would have been doing with the children had the researcher and camera not been present. Consequently the activities filmed in the seventeen classrooms varied considerably.

Several teachers chose to do a "circle-type" activity which either occurred every day or was specially planned for the day of the

filming. Some video-taped segments included the introduction of new learning materials which had been placed in the activity centers; others consisted of a group discussion prior to and immediately following the showing of a film, the playing of a game or the reading or telling of a story; while others were more formal, such as a printing lesson or a practice session in identifying letter sounds or rhyming endings. No attempt was made by the researcher to influence the type of activity which the teacher had planned for the video-taping session.

In order to avoid the problems identified by Conners (1978) and others who have used the methodology, several precautions were taken by the researcher before, during, and after the video-taping.

Initial Contact with Subjects. Care was taken by the researcher to present herself as a warm, open person who knew from experience that life in classrooms was not always easy and who had a strong empathy for early childhood teachers and a genuine love of children. Appreciation was expressed for the subject's willingness to assist with the research even though it meant adding to the teacher's already crowded schedule and demands made upon her time.

The researcher was satisfied that a good relationship was established with each of the subjects and that the interviews proved to be a stimulating and often enjoyable experience for these teachers. Not one subject demonstrated impatience or a desire to see an interview end. In fact several would have continued much longer had the researcher not chosen to bring the session to a close.

The conclusion was reached that the subjects perceived the

research as being a worthwhile project and were pleased to have been a part of it. One subject said "It's about time the universities started paying some attention to early childhood teachers!" When contacted some months later by mail in order to provide clarification of an ambiguous item in the questionnaire, each one replied promptly. This was interpreted by the researcher as evidence of the subjects' involvement in and commitment to the project.

Familiarization Procedures. Since two sets of video equipment were used in the study, most of this equipment could be brought into the classroom the day before the actual filming took place. It was always set up in the most unobtrusive manner possible and carefully tested before the children arrived on the day of the filming.

The television monitor, the video recorder and even the researcher were usually out of sight of the children, and quite often of the teacher as well, during the filming. The physical layout of most ECS centers provides several physical barriers, such as bookcases or other space dividers which made it possible to keep the video equipment out of the way of the activity being recorded on tape. Although the tripod and camera could be seen by the teacher, most of the children had their backs turned to the camera and seemed to be totally unaware that they were being filmed.

As for the presence of the researcher in the classroom, this was accepted without question by the children who were quite accustomed to having parents and other adults visit the center. The majority of them never even asked what the researcher was doing, although a few teachers made a point of introducing the visitor and explaining that

she would be taking some pictures of the classroom. Care was taken by the researcher to discourage verbal interactions with the children so as not to interfere with normal routines and activity in the center.

At the end of the filming of the stimulus activity, a two or three minute segment was taped, by prearrangement with the teacher, of the children performing an action song, finger play, etc. This was played back for the children's enjoyment and they were quite astounded to see themselves on "TV" just a few moments later. This practice also allowed the teacher to see herself on video if she had not had this experience before and appeared to contribute towards making her feel at ease during the subsequent viewing of the teacher-directed activity which was used as a stimulus for the interview.

All of these precautions seemed to have the cumulative effect of making teachers feel comfortable about their involvement in the project and ensured that the researcher's presence had minimal impact on normal classroom behavior. Several subjects reported that they actually forgot that they were being filmed. With others, however, a certain amount of nervousness was apparent but not to the extent that it would seriously affect or invalidate the subject's behavior in terms of this study. It is quite likely that for some individuals the nervousness would have persisted even if the researcher had spent a considerable amount of time in the classroom before the actual video-taping took place.

Conducting the Interviews. All the interviews were held the same day as the filming. Care was taken to find a quiet place for the interview and to ensure that there would be no interruptions although

this could not be guaranteed and did occur in some instances. Sharing a cup of coffee just before commencing the interview helped to establish rapport. The procedures that would be followed and the purpose for the interview were carefully explained to each subject. The interviewer and the subject were seated comfortably in front of the television monitor and use of a reel-to-reel recorder made it possible for the researcher to stop the videotape and freeze the picture or go back to a previous segment whenever the teacher started to talk about what she had been thinking while the activity was being filmed.

Identical procedures, described in Appendix B, were followed for each interview. The researcher explained that the interview was being audiotaped and would later be transcribed. The subjects were reassured that the transcripts and tapes would be treated in a confidential manner and only used by the researcher to analyze the data and to present the findings. The length of the interviews ranged between one hour to an hour and thirty minutes.

Stimulus Points Used During the Interviews. The choice of stimulus points at which the videotape may be stopped by the researcher or the subject is another factor which must be carefully considered when using stimulated recall as an investigative tool (Conners, 1978).

The stimulus points chosen by the interviewer focused on events that seemed to be unplanned or unforeseen by the teacher in the preactive stage. During the videotaping the researcher made frequent notes about teacher and pupil behaviors which were not quite consistent with what the teacher had said she was planning to accomplish before the interaction began. These notes were referred to during the inter-

view and proved useful in helping the researcher to decide at which points the videotape should be stopped.

Generally speaking, the interviewer initiated the stopping of the tape when the teacher asked a question of a particular child; did or said something that was not related to the preactive learning outcomes already revealed by the subject; or when a child did or said something that seemed to surprise the teacher.

The subjects, on the other hand, were asked to initiate the stopping of the tape whenever one of the following occurred:

(a) The teacher recalled thinking about an intended learning for one child or for the group, especially if these outcomes were in addition to the ones already mentioned during the interview;

(b) The teacher saw herself doing or saying something on the videotape other than what she had planned to do before the learning activity began;

(c) One or more of the children said or did something she hadn't expected of them.

Although the subjects in the present study did not physically engage in operating the video recorder, they were encouraged to alert the interviewer whenever they recalled thinking about learning outcomes during the filmed segment. In these instances and whenever the interviewee began to speak, the researcher immediately stopped the tape so that the still picture remained visible on the screen. The subject was asked to recall what she was thinking at that particular point in time. The questions, "Is that what you were thinking?" or "Do you remember what you were thinking?" were used frequently throughout the interview.

The Interview Schedule

Because of the exploratory nature of the study a standard interview schedule was not strictly adhered to, although all twelve items outlined in the schedule (Appendix C) were asked of each subject unless a previous answer rendered an item superfluous. Some flexibility in wording and order of the questions was thought to be warranted in order to obtain accurate information. Probing questions were also used to ensure that the intent of a question was clearly understood or whenever an answer seemed irrelevant, incomplete, or its meaning was unclear.

The interview schedule was designed to gather data which would provide answers to the following research questions:

1. At what stages do teachers identify learning outcomes?
2. What are the differences, if any, in the kinds of learning outcomes identified preactively, interactively and postactively?
3. Are teachers aware that they identify intended outcomes at different stages?
4. To what extent is the identification of intended learning outcomes related to information a teacher obtains from observation of the learner(s)?
5. Are there any reasons, other than the need to focus on the learner, for identifying intended learning outcomes at different stages?
6. What teacher background variables, if any, are related to the stages at which intended learning outcomes are identified?

Items 1 and 2 in the interview schedule were asked just before the filmed activity was viewed by the subject and the interviewer. These items were intended to reveal the learning outcomes which the subject had identified, in her mind at least, in the preactive phase of teaching. Item 1 sought information about the intended learning outcomes identified before the activity began, while Item 2 differentiated between ILO's identified before the activity (or sequence of activities) had been planned or chosen by the subject and those which were identified after the activity had been planned but before it took place.

Items 3, 4 and 5 were constructed to help determine which learning outcomes, if any, had been identified interactively and whether any of the preactively-determined learning outcomes had been modified, added to or omitted during the activity. The question "Why?" was asked frequently to discover the subject's reasons for identifying or modifying learning outcomes during the interactive phase.

Items 6 and 7 were designed to determine whether the subjects had identified any learning outcomes postactively and if so, whether the identification of learning outcomes at this stage was related to information obtained from observing the children during the filmed activity.

Items 8 and 9 were included to help the researcher determine whether the subjects were aware that they did identify learning outcomes at different stages.

Item 10 was designed to reveal whether a subject had a

preferred stage or stages for identifying learning outcomes as well as the reasons for holding this preference. It also was designed to provide a cross reference with which to compare data gathered earlier in the interview about the stages at which the teachers had identified learning outcomes for the filmed activity.

Similarly, Items 11 and 12, while not directly related to any of the six research questions, were included to provide data for the purpose of cross-validating a subject's earlier responses. The researcher was interested in learning whether there would be any congruence between what the subjects perceived themselves to do and what in fact they did do when they planned and carried out the segment of instruction which was videotaped for the study.

Personal and Professional Questionnaire

One of the research questions in this study was concerned with possible relationships between several teacher background variables and the stages at which intended learning outcomes are identified. The data source for these variables was a Personal and Professional Questionnaire (Appendix D) which was left with each of the subjects after the stimulated recall interview was ended. This instrument provided information with respect to the nature and length of each subject's teacher education program, the nature and length of previous teaching experience other than in the ECS program in Alberta, length of experience in an ECS program and the subject's age.

Other Data Sources

The videotapes of the filmed segment of instructional activity

proved to be a useful data source. They were constantly referred to during transcribing of the interviews in order to clarify or validate statements recorded on audiotape. Written field notes made by the researcher before, during and after the videotaping were also used extensively for the same purpose.

Data Analysis Procedures

The interview transcripts were analyzed in several different ways to answer the six major research questions and to look for additional findings related to the secondary purposes of the study.

Identification of Intended Learning Outcomes

It was necessary to devise a coding system which would identify the Intended Learning Outcomes (ILO's) embedded in the statements made by the subjects during the stimulated recall interviews. First it was necessary to develop some criteria for determining what would be counted as an ILO and secondly, to find some means of deciding, in a consistent manner, to which of the four stages each of the ILO's belonged.

Definition of an Intended Learning Outcome. An ILO, for the purposes of this study, was defined very broadly so as to minimize the risk of losing valuable information about the classroom curriculum development process. While the term may seem to be synonymous with the more commonly used word "objective", it is also meant to include thoughts which occur in teachers' minds as revealed in the interviews which might not ordinarily be considered as objectives.

Intended Learning Outcomes are the facts, ideas or other types of information the teacher wants or expects the children to learn. They may refer to some skill or competency which the learner is expected to acquire as the result of an instructional program. An ILO may also be a feeling, attitude, value or certain behavior which the teacher sees as worthwhile and desirable for children (Posner and Rudnitsky, 1978).

An ILO, as defined in this study, probably encompasses several of the categories used by Conners (1978) in his analysis of teachers' interactive thought processes, especially the four which he labelled as Expectations, Objectives, Beliefs and Information-Pupil.

Expectations, according to Conners, "refers to the behavioral responses of pupils that the teacher expects or anticipates will happen" (p. 101). Beliefs are statements made by teachers about children and the behavior of children, while Objectives is a category in which the teacher indicates pupil outcomes that are to be achieved. Information - Pupil is a category in which a teacher recalls and/or uses information about pupils (p. 102). All of these categories, it seems, could reveal information about ILO's as defined here. For this reason, the coding system used by Conners was not considered suitable for analyzing the content of interview transcripts in the present study.

The researcher assumed that what a teacher says and does in a classroom, whether the result of a deliberate or a spontaneous decision, is said and done with some intention or purpose in mind. When an intention, revealed by a subject during the stimulated recall interview, was related to something the learner was expected to know, do or feel,

it was classified as an ILO.

Most ILO's found in the transcripts analyzed in this study were prefaced by statements such as: "I want them to be able to . . ." "I just wanted him to feel . . ." or "I'd like them to get the idea that . . ." The following examples are illustrative of statements which were considered as ILO's and those which were not.

Examples of ILO's

S-01 I'm trying to encourage the children to speak in a whole sentence, to wait their turn, to listen when other children are speaking, remember what other children have said.

S-11 I was trying to get the idea across of correct formation [of the letter "b"], that the stick comes down and the ball starts at the top.

S-14 I was really pleased. . . because they came and sat down and knew that they would get their turn. I like to avoid [confusion as they change from one activity to another] as much as possible.

In the first example above (S-01) four distinct ILO's were noted while the statements by S-11 and S-14 were only counted as one ILO each.

Examples of Non-ILO's

S-11 I was thinking I should have had someone else pass out the papers . . .

S-12 I thought that there are two little guys right at the front who have started to do that [say "Oh No!"] and it annoys me . . . but they just do that, smart little devils . . .

S-17 Now the reason for asking them "How many have we got?" is not a Math reason . . . it's to help them remember what's missing.

In the first example of a non-ILO, although S-11 was concerned about the child's inappropriate behavior, she did not think of a related learning outcome for him, but turned her thoughts instead to a strategy for avoiding a disturbance in the class by having someone else pass out the papers.

In the second non-ILO, the teacher's thoughts are focused on her own feelings of annoyance. She is not thinking about bringing about a change of behavior in the boys who were the source of her annoyance. Therefore there is no learning outcome identified at that time.

The third example reveals that the words "How many have we got?" were not spoken because S-17 wanted to help the children improve their mathematical skills but to help them recall which animals were missing after a number of them had been removed (while three children were hiding). Although an ILO related to visual memory was tallied, there was no ILO related to a mathematical learning outcome embedded in S-17's statements.

Categorization of ILO's By Stages

A second requirement in the study was that the ILO's be coded as preactive (Stages I and II), interactive (Stage III) or postactive (Stage IV). These stages coincide with the four patterns used by teachers to identify specific objectives as reported by Pylypiw (1974).

Description of Stages. The four stages used to categorize the ILO's are described as follows:

1. Stage One

This stage refers to ILO's which are identified before the teacher plans an activity or selects the materials to be used. Stage One ILO's guide the decisions made by the teacher in planning for instruction. For example if the teacher has identified a need to work on rhyming skills, she then goes about looking for books, cards or activities to achieve her intended learning outcome, namely that the learner will be able to recognize words which have the same ending sound.

2. Stage Two

After deciding to carry out a certain activity such as a group discussion, a game, a film, or a combination of all three, the teacher may reflect upon the learning outcomes which she hopes the children will achieve. These outcomes will be related to and perhaps even limited by the activity or materials which are already chosen. For example if the teacher has selected a book of riddles in which the rhyming word contains the solution to the riddle, it is possible that further ILO's will be identified such as: "This will really make them listen and think. They'll have to think about the riddle and the ending sound at the same time. It will help to improve their listening skills, especially auditory closure, when I read 'I am a number and I rhyme with me.' They'll have to think of all their numbers and hold the sound of "me" in their heads at the same time."

3. Stage Three

ILO's may also be identified interactively while the teacher

is carrying out a planned activity with the children. For example a teacher has planned to have the children carry out an activity which requires them to match a set of objects with a numeral. Her preactive ILO may have been to develop the concept of the constancy of number, i.e. "that three is always three whether it's three beads or three dots". While observing a child carrying out the activity she notices that he first of all lines up the pictures of the sets from 1 to 12, and does the same thing with the numerals. She recalls during the interview thinking, "This activity also requires him to recognize numbers out of sequence in random order. Since it was not given to him in an ordered series it involved number sequencing as well as recognition." Because she considers this to be a desirable learning outcome, it actually becomes an ILO at that moment even though she had not thought of it when she was planning the activity.

4. Stage Four

ILO's may also be identified after the interaction has ended as the teacher reflects upon the events which have just occurred. For example, the teacher may recall having seen a child print his own sentence under his drawing without waiting to dictate it to her. Even though she had not expected him to do so, she notes with approval that he is becoming interested in printing his own words, an outcome which she considers highly desirable even though she had not thought of it when identifying her ILO's before or during the interaction. She may decide to talk to him about it the next day and give him a model to follow from so he can move toward better formation of the letters. In this way, Stage Four ILO's may lead to further planning and become Stage

One ILO's for the next day or week.

Rules Employed in Tallying ILO's. A number of arbitrary decisions had to be made by the researcher in counting the ILO's and assigning them to the four stages. The following rules were observed:

Rule 1. When an ILO was repeated in the same context as first mentioned by a subject, it was only counted the first time it appeared. For example S-2 spoke of wanting the children "to be aware of their nails and how to take care of them" at the beginning of the interview. She later reported that when she showed the children the manicure tools she had brought to class (during the interaction) that she was thinking of her basic objective for the activity - "I wanted them to be more aware of their hands and how to care for their nails." Two ILO's were tallied on the first occasion but none on the second.

Rule 2. A more specific elaboration of a general ILO was counted as a new ILO. For example S-1 said that she wanted "to develop the idea of an opposite" as her general objective for the activity she had planned. She also planned to have the children learn several pairs of opposites, such as "wet and dry", "rough and smooth", "heavy and light." The number of ILO's tallied in this situation was four.

Rule 3. When an ILO identified for one child reappeared for a different child, it was counted on both occasions. For example S-8 spoke of wanting a shy child to "feel important". A few moments later she mentioned in connection with a different child "I just thought that if I could make her feel very special and important today as well." Both of these ILO's were tallied separately.

Rule 4. An ILO considered by a subject and discarded almost immediately for one reason or another was not counted. For example S-1 spoke of wanting to teach the words "hot and cold" but changed her mind because "our tap won't run hot enough unless you let it run for about half an hour and I thought that wouldn't be too good."

Rule 5. ILO's discussed by a subject in connection with an event which was not part of the filmed teacher-directed activity were excluded from the data. S-2 reported that later on in the morning she had paired two children for one of the activity centers because she was "hoping that they would interact verbally and that _____ would help _____ come out of her shell." This intended learning outcome could not be counted since it happened outside the context of filmed activity.

Reliability of the Coding System. The major limitation of the coding system used in this study was that it required considerable subjectivity on the part of the coder to decide what should be called an

ILO and to which stage it should be attributed. Several precautions which were taken to overcome this problem are described below.

1. Intracoder Reliability

One way of ensuring consistency in the application of a coding system is for the researcher to process the same transcripts at different time intervals and to compare the results. This method was used first of all to establish the stability of the coding system used to determine the number of ILO's attributed to each subject.

Two copies of the same transcript were processed at intervals of four to six weeks and the results compared for all subjects. The difference in total number of ILO's on the two occasions was 27, i.e., 410 on the first occasion and 437 on the second. Guetzkow's (1950) formula for ascertaining unitizing reliability was applied. The formula is as follows:

$$U = \frac{O_1 - O_2}{O_1 + O_2}$$

where O_1 is the number of ILO's obtained on the first occasion and O_2 is the number obtained on the second occasion. In no case was the difference between the two occasions greater than plus 5 ILO's for any one subject. The researcher was therefore satisfied that the criteria for identifying an ILO in the interview transcripts had been applied consistently. The differences in results obtained on the two occasions were largely due to a later decision to count the same ILO again when it reappeared interactively with reference to a different child. This rule had not been applied when the transcripts were processed on the first occasion.

The same procedure was used to establish coding stability in assigning ILO's to the four stages. The discrepancies observed between the two occasions were largely due to uncertainty whether a preactive ILO belonged in Stage One or Stage Two. The subjects consistently responded to Item 2 of the interview schedule by saying that they had identified all of their preactive ILO's before selecting the learning activities by which they expected to achieve them. On closer examination of the transcripts, however considerable doubt arose that what they perceived to be Stage I ILO's really did belong in Stage I.

For example, subject 14 had as a Stage I ILO to have the class "learn what air is". She looked for a book to read to the children to help them understand that "wind is air moving". The book which she chose dealt with the concept that warm air is lighter and thinner and therefore rises, causing colder and heavier air to rush in and take its place. The researcher asked the subject during the interview if she had intended the children to understand this concept. She replied "not completely. This would be, you know, an introduction, to begin to understand the relationship between cold and warm air. Now we can carry on from there." Although the subject had maintained that she always decided on her intended learnings before choosing an activity, it could be argued here that the ILO for the children "to begin to understand the relationship between warm and cold air" was only identified by her because she had chosen a certain book which happened to introduce that concept. Therefore it would fit into the Stage II category rather than Stage I.

Coder stability was consistently high in distinguishing ILO's

which were labelled Stage III (interactive) rather than Stages I or II (preactive). Whenever a subject mentioned having thought about an ILO during instruction, the interviewer always asked "Had you planned to bring that in?" or "Had you thought about that learning outcome when you were planning this activity?" Responses such as "Oh, no, I just thought about it then." or "No, that was spontaneous" left little doubt that these ILO's should be labelled Stage III.

Some problems were also encountered in distinguishing between Stage III and Stage IV ILO's when the same learning outcome appeared in both stages and when a Stage IV ILO was essentially the same as a preactive ILO which had already been counted in Stages I or II. A general rule of thumb observed by the researcher was to count a learning outcome mentioned in more than one of the stages only once, i.e. assign it to the stage during which it appeared first.

The results of the intracoder reliability checks are presented in Table 1.

2. Intercoder Reliability

Another caution observed to overcome the problem of subjectivity in the use of the coding system devised for this study was to invite two competent judges to act as independent coders. This technique is often used to check on the reliability of a content analysis system.

One of the independent coders holds a Ph. D. in the area of Curriculum Studies from the University of Alberta and is noted for his objectivity and conceptual thinking skills; the other completed her Master's degree in Early Childhood and is a doctoral candidate in

Table 1

Measures of Intracoder Reliability in Coding Transcripts of All Subjects and Assigning Intended Learning Outcomes (ILO's) to Stages

Stages to which ILO's Assigned	Number of ILO's Obtained		Coefficient[a] of Reliability
	Occasion 1	Occasion 2	
Stage I	114	116	.009
Stage II	79	85	.037
Stage III	191	200	.023
Stage IV	26	36	.161
Totals	410	437	.032

[a]Guetzkow's (1950) formula for ascertaining unitizing reliability: $U = \frac{O_1 - O_2}{O_1 + O_2}$; where O_1 = Number of units obtained on the first occasion and O_2 = Number of units obtained on the second (0.00 represents perfect agreement).

Educational Administration at the University of Alberta. Each of these individuals was provided with a written explanation of the coding system and a coded transcript to examine as a prototype. Two non-coded transcripts were selected at random and copies of each given to the judges with the following instructions:

(a) Do the segments which have been underlined contain an ILO?

(b) Are there any more ILO's which have not been underlined?

(c) To which of the four stages does each ILO belong?

A coefficient of reliability was calculated which uses the ratio of coding agreements to the total number of coding decisions and is represented by the following formula (Holsti, 1969):

$$C.R. = \frac{2M}{N_1 + N_2}$$

In the above formula M is the number of coding decisions on which two judges are in agreement, while N_1 and N_2 are the number of coding decisions made by judges 1 and 2 respectively. This procedure is similar to the one used by Conners (1978) to establish reliability coefficients for the coding of data into interactive and non-interactive categories and was therefore believed appropriate for this study as well.

The results of the intercoder reliability checks are given in Table 2. In no case is the reliability coefficient less than 0.74. Marland (1977) and King (1979) established a reliability coefficient of 0.70 as acceptable in content analysis when the complexity of the data and the detail involved in coding are such that perfect agreement is almost impossible. Holsti (1969) also pointed out that the degree

Table 2

Measures of Intercoder Reliability in Coding Transcripts of Two Subjects and Assigning Intended Learning Outcomes (ILO's) to Stages

Transcript	Number of ILO's Obtained			Agreements with Investigator		Coefficient[a] of Reliability	
	Investigator	Coder 1	Coder 2	Coder 1	Coder 2	Coder 1	Coder 2
Subject 01	36	37	38	33	28	.904	.757
Subject 08	18	19	19	16	14	.865	.757
	54	56	57	49	42	.890	.743

[a]Holsti's (1969) formula represented by $C.R. = \frac{2M}{N_1+N_2}$; where M represents the number of Agreements and N_1 and N_2 are the number of coding decisions made by judges 1 and 2 respectively; perfect agreement represented by 1.00.

of reliability required in content analysis is highly contentious and must be related to the complexity of the task. Since the methodology used in this study to gather and analyze the data is considered to be somewhat innovative and highly complex, the reported intracoder and intercoder reliability is seen as quite satisfactory.

Categorization of ILO's By Type

The second research question looks at differences in the kinds of ILO's which are identified by teachers preactively, interactively, and postactively. The categorization system which was used in this study is basically similar to that which is described by Posner and Rudnitsky (1978). These authors distinguish first of all between ILO's which are skills and those which are non-skills:

> Generally speaking, nonskills comprise the knowledge and attitudes with which we think and feel. Skills comprise what we can do with this knowledge and how we can act on these feelings. (p. 20)

Skills are then further subdivided into cognitive and psychomotor-perceptual while nonskills are classified as either cognitions or affects.

When the ILO's identified by the subjects in this study were examined, it seemed there was a fifth category which was not accounted for by Posner and Rudnitsky's four part classification. This category has been labelled for the purposes of this study as social or group behavior.

Description of Types. A description of each type of ILO as defined in this study is provided below:

1. Cognitions are the ideas, facts, or concepts which the teacher wants the child to learn, be aware of, or understand. For example, subject 1 wanted the children to learn "that there are words to describe everything in categories" and subject 2 wanted them "to be aware of the weather conditions".

2. Cognitive Skills refer to the ability to use ideas and concepts to perform some mental action such as to compare, to remember, to communicate, to predict and to solve problems. Subject 3 said that she wanted the children "to recognize same and different" and to be able to tell her "in what way things are the same and in what way they are different." The ILO's referred to here fall under the category of cognitive skills.

3. Psychomotor-Perceptual Skills is a category that encompasses physical abilities and/or movements that are more observable than any of the other categories. Generally speaking, it refers to physical rather than mental skills and includes perceptual discrimination, bodily awareness and visual tracking as well as fundamental and reflexive movements such as running and jumping. Posner and Rudnitsky claim that it is often difficult to decide whether a skill is psychomotor-perceptual or cognitive. In this study, whenever an ILO required the child to perform some observable action or movement it was classed as psychomotor-perceptual rather than cognitive. For example, when subject 11 refers to wanting the children "to recognize their numerals from 20 to 30" it is classified as a cognitive skill, whereas subject 2's ILO "to make the number 5 in the air with their bodies" is classified as a psychomotor-perceptual skill.

4. Affects, according to Posner and Rudnitsky, are usually thought to include:

> (a) inner-and outer-directed feelings and values; (b) certain content, namely self and interaction of self with others; and (c) aspects of personality (i.e., personal attributes). . . . ILOs of this type may be expressed with verbs such as understand, know that, or other verbs commonly used to indicate cognitive learnings. Whenever the object of these verbs reflects self-knowledge, however, they are more appropriately categorized as affects rather than as cognitions. (p. 59-60)

In this study, ILO's which refer to a child's feelings or self-image were easily recognized as affects. For example, subject 8 noticed with approval that " _____ had a big grin on her face and really appeared pleased with herself." (A recent family tragedy had given the teacher cause for concern with this particular child's emotional well-being.) Again, subject 9 who wanted the children "to express their feelings" about going to the hospital and having a needle was considered to be identifying an affective rather than a cognitive outcome.

5. Social and Group Behavior refers to a category which is a well recognized feature of early childhood programs. A great deal of a teacher's efforts in the kindergartens included in this study seemed to be directed towards teaching children how to behave in a group, how to listen, how to take turns and to remember to put up their hands if they had something to contribute to the group discussion. ILO's which were directed towards these ends might possibly have been called Affects as defined by Posner and Rudnitsky, or they might have been classed as Psychomotor-Perceptual Skills since they often involved some observable action or movement on the part of the child. However, the social development of children is an important goal of early childhood programs. It was therefore decided to isolate ILO's which were

related to the child's social/group behavior for the purpose of analyzing the data.

Reliability of the Categorization System. Since all of the ILO's were divided by the researcher into the five categories described above and because of the high degree of subjectivity which was involved, it was thought necessary to devise some means of establishing the reliability of the system used to identify ILO's by type. The procedures employed were similar to those used and described earlier to check on the stability and reliability of the coding system which identified and categorized ILO's by stages.

1. Intracoder Reliability

A list of all the ILO's identified by each subject was compiled and subdivided into the five categories of ILO's: Cognitions, Cognitive Skills, Psychomotor-Perceptual Skills, Affects and Social Behaviors. Four weeks later, 40 ILO's were randomly selected from the transcripts of sixteen subjects and recoded by the researcher. When the results were compared for the two occasions and Holsti's (1969) formula was applied, a coefficient of .925 was obtained, indicating a high degree of coding stability.

2. Intercoder Reliability

Using the same two independent judges as had been employed to establish the reliability of the coding system which categorized ILO's by stages, these judges were given 25 randomly selected ILO's from the transcripts of five subjects and were asked to assign them to the five categories listed above. Holsti's (1969) formula was applied. The

percentage of items on which each of the independent coders agreed with the judgments already made by the researcher was never less than .80 and is therefore considered to be very satisfactory. The results of the intracoder and intercoder reliability checks are shown in Tables 3 and 4 respectively.

Additional Analyses

There were several other data analysis procedures which were carried out in order to answer the research questions and to fulfill the secondary purposes of the study. These procedures were not as complex as the ones already noted and will therefore be described in less detail.

Levels of Specificity. A second way in which ILO's might be considered to differ is with regard to their level of specificity. Furthermore several subjects, in responding to Item 11 in the interview schedule, had suggested that intended learning outcomes would likely be more specific and more individual when identified interactively than when they were decided upon in the preactive phase of teaching. Consequently all the ILO's identified by subjects during the four stages were categorized as General or Specific to permit comparisons among stages to be made.

The meaning of the term specific used for this purpose was taken as equivalent to "precise" or "particular". For example "to develop their rhyming skills" was classified as a General ILO, whereas "to be able to supply the missing rhyming words in this particular set of riddles" was regarded as Specific. The general rule of thumb

Table 3

Measures of Intracoder Reliability in Classifying Intended Learning Outcomes (ILO's) as Cognitions, Cognitive Skills, Psychomotor-Perceptual Skills, Affects or Social/Group Behaviors

Category	Number of Decisions		Number of Agreements	Coefficient[a] of Reliability
	Occasion 1	Occasion 2		
Cognitions	9	7	7	.875
Cognitive Skills	11	13	11	.917
Psychomotor-Perceptual Skills	5	4	4	.889
Affects	4	5	4	.889
Social/Group Behaviors	11	11	11	1.00
Totals	40	40	34	.925

[a]Perfect agreement represented by 1.00

Table 4

Measures of Intercoder Reliability in Classifying Intended Learning Outcomes (ILO's) as Cognitions, Cognitive Skills, Psychomotor-Perceptual Skills, Affects or Social/Group Behaviors

Category	Number of Decisions			Agreements with Investigator		Coefficient[a] of Reliability	
	Investigator	Coder 1	Coder 2	Coder 1	Coder 2	Coder 1	Coder 2
Cognitions	7	7	10	5	7		
Cognitive Skills	10	10	7	9	7		
Psychomotor-Perceptual Skills	1	2	1	1	0		
Affects	4	5	4	4	4		
Social/Group Behaviors	3	1	3	1	3		
Totals	25	25	25	21	22	.840	.880

[a]Because of the small number of ILO's in some categories, coefficients have been calculated for the totals only. Perfect agreement represented by 1.00.

employed was that when an outcome was intended for a particular child and the resulting behavior was expected to be achieved and observed within a reasonably short period of time, it was classified as being Specific. When the ILO was intended for the whole group and involved a precise outcome, such as "to count to ten," or to understand the concept of "threeness" then it was considered to be Specific. Any ILO's which did not meet these criteria were, by default, classed as General. The following are examples of Specific and General ILOs taken from the transcripts:

1. Specific ILO's

S 01 I just wanted to see if _____ would wait his turn today.

S 02 I wanted _____ to get involved in the activity and become a little more active today than he usually is.

S 05 I wanted them to portray the vegetables as people-like [i.e. draw them with faces].

S 07 I wanted them to recognize the sound of "T" in the words "Tommy, teeth, and today".

2. General ILO's

S 10 I want them to be aware of the importance of listening.

S 15 I want them to realize that it's success just to have tried and to have made a good effort even though their answers might not be correct.

S 17 I want them to have some general knowledge about different types of animals and their habitats.

S 03 I want them to be able to group and to classify.

S 08 I want _____ to become more independent and not to keep coming to ask for help all the time.

It was recognized that only gross distinctions in the specificity of the ILO's were being made. However, since the question

was considered to be of secondary importance to the research problem, these procedures were judged to be adequate for the purposes of this study. For the same reason, no independent coders were used to establish reliability of the analysis.

Individual and Group ILO's. A third approach to determining what differences, if any, existed between ILO's identified at different stages was to classify them as being intended for one child, a small group (two or more children) or for the entire class (large group). This proved to be a fairly straightforward task and no particular difficulties were encountered. Percentages were calculated which permitted comparisons to be made among stages and among subjects.

ILO's Derived From Information About Learners. The fourth research question examines the extent to which the identification of ILO's by teachers was related to information a teacher has about children. A child-centered approach to curriculum development would seem to require that the teacher have certain skills in observing children and in translating that information into learning outcomes.

The researcher was interested in three distinct kinds of information: whether it was in reference to an individual child; to a specific group of children (i.e. two or more); or whether it was information based upon the teacher's beliefs about the needs and interests of children in general. There were several tasks which had to be carried out so that the data from the stimulated recall interviews could shed some light upon these questions.

First of all, the transcripts had to be scrutinized and any

statements referring to information about children as defined above singled out for further scrutiny. Secondly, the researcher examined each of these statements to see if it was related to one or more of the ILO's already credited to that particular teacher. And finally, a list was compiled which showed the number of ILO's at each stage which subjects had appeared to derive, or provide justification for, by referring to a source of information about children. This permitted the total number of ILO's identified in this manner to be expressed as a percentage of the ILO's for each subject and for the total sample. It also allowed for some interesting comparisons to be made between stages and among subjects. Again, since the coding system used was relatively simple, no reliability checks were carried out or thought to be necessary.

Reasons for Identifying ILO's at Various Stages. The interview transcripts were also expected to yield data with respect to the fifth research question: Are there any reasons, other than the need to focus on the learner, for identifying outcomes at different stages? Item 10 of the interview schedule asked subjects if they had a preferred stage for thinking about learning outcomes and if so, why that seemed to work best for them. Consequently, the transcripts contained many statements which provided reasons as perceived by subjects for using each of the stages. Inspection and frequency counts were used to analyze these data.

Relationship of Stage Preferences to Teacher Variables. The data collected by means of the Personal and Professional Questionnaire were also analyzed by inspection and frequency counts. The results of

analyses which had been carried out to answer the first five questions were carefully scrutinized to discover whether any relationships existed between a specific teacher characteristic and results already obtained. For example, the researcher was able to inspect the results of subjects who showed a strong preference for identifying ILO's preactively to see if these subjects had some characteristic in common.

Assumptions

This study, which investigated the identification of intended learning outcomes by classroom teachers using introspective methodology, was based on several assumptions:

1. that intended learning outcomes are an important component of the curriculum that is implemented in a classroom;
2. that the sample of teaching behavior observed in this study is a reasonable approximation of a teacher's normal classroom behavior;
3. that verbal reports of interactive thoughts produced by teachers under the conditions of stimulated recall are reasonably accurate representations of their actual mental processes;
4. that interactive thoughts are important determinants of teachers' behavior and that teachers' actions in a classroom are intentional and oriented towards some goal;
5. that it was not necessary for teachers to undergo any training to be able to report accurately the substance of their interactive thoughts.

Limitations

There were several features of this study which will have a limiting effect on its generalizability and will prevent comparisons to be made across the sample and between teachers.

1. No attempt was made to standardize the task environment with the exception that it was to focus on a teacher-directed activity. Results might have been quite different if an open-ended or child-directed activity had been used.
2. The size of the sample, although randomly selected, was small.
3. The segment of activity which was used as a stimulus for the interviews was very short and may not be typical of the learning activities which are carried out during most of the teaching day.
4. There is no assurance that all of the intended learning outcomes were revealed by a teacher during the stimulated recall interview. Had a larger or smaller number of stimulus points been used, results might also have differed.
5. Because the sample was limited to early childhood (kindergarten) teachers, it may not be generalizable to teachers at other grade levels.

Summary

This chapter has provided a detailed description of the procedures which were followed in this study and the pilot study, not only to gather the data, but also to organize and analyze them. The rationale for choosing stimulated recall as the principal method of investigation and for limiting the sample to early childhood teachers was discussed. Reliability of the coding system used was established and justification for the many procedural decisions has been offered. And finally, a number of assumptions and limitations inherent in the methodology were discussed.

Chapter IV

FINDINGS

Overview

This chapter presents the data from the stimulated recall interviews and reports the findings which are related to the six research questions posed in Chapter I and elaborated on in Chapter 3. The chapter has four sections each dealing with separate yet related aspects of the study.

Section A presents a profile of the teachers who made up the research sample. A description of their personal and professional backgrounds has been placed at the beginning to provide a framework for interpreting the findings reported in the remainder of the chapter.

Section B consists of findings which are related to five of the six research questions. All of these data had a common source in the interview transcripts and, although presented separately for each question, are nevertheless related in many ways.

Section C contains the findings with respect to question six and relates the data presented in Section B to several teacher variables described in Section A.

Finally, Section D presents other data concerning the use of stimulated recall methodology. It also reports the findings with respect to the stratified sample and presents other data from the interviews.

Section A

Description of the Research Sample

The data in this section were collected by means of a questionnaire, the results of which have been tabulated and are presented in Table 5.

All of the seventeen randomly selected teachers in this study were female and were teaching in an ECS (kindergarten) program. To preserve anonymity, the subjects have been coded using numerals 1 to 11 to denote teachers employed by a school board and numerals 12 to 17 to denote those who were employed by a private operator.

Table 5 reveals that these teachers were between 20 and 49 years of age and that none of them had less than four years of post-secondary education. Subjects 1 and 11 had twenty-three and twenty-four years of teaching experience respectively, while subjects 3 and 10 were in their first year of teaching at any level. All but two held Professional Teaching Certificates and all but one had qualified for an Alberta Early Childhood Services Diploma.

The majority of the teachers were graduates of the University of Calgary's Faculty of Education. Others had taken their professional training elsewhere in Canada or in the United States. Three had received their training at the University of Alberta. Only one subject had taken her original teacher training program overseas, i.e., in the United Kingdom.

Table 5

Description of the Research Sample

Characteristics	Category	Frequency
Age	Under 20 years	0
	20 to 29 years	8
	30 to 39 years	5
	40 to 49 years	4
	50 years and over	0
Teaching Certificate	Permanent Professional	11
	Interim Professional	4
	Standard Elementary	2
	Standard Secondary	0
	Junior Elementary	0
	Provisional	0
	Other	0
ECS Qualification	ECS Diploma	16
	Interim Permit	1
Total years Teaching Experience	First year	2
	3 years or less	3
	4 to 5 years	4
	6 to 10 years	3
	11 to 15 years	2
	16 to 20 years	1
	21 years or over	2
Teaching Experience in Grades 1-3	None	7
	2 years or less	7
	3 to 5 years	0
	6 to 10 years	2
	11 to 15 years	0
	16 to 20 years	1
	21 years or over	0
Teaching Experience above Grade 3	None	10
	2 years or less	4
	3 to 5 years	2
	6 to 10 years	1
	11 to 15 years	0
	16 to 20 years	0
	20 years or over	0
Teaching Experience in ECS in Alberta	Less than 1 year	3
	1 to 3 years	7
	4 to 6 years	7
	7 years or over	0
Teaching Experience in Preschool - not ECS	None	10
	2 years or less	6
	3 to 5 years	0
	6 to 10 years	0
	11 to 15 years	1
	16 years or over	

Table 5 (Continued)

Characteristics	Category	Frequency
Post Secondary Education	3 years or less	0
	4 years	11
	5 years	3
	6 years	3
Sources of Professional Training	University of Calgary	10
	University of Alberta	3
	University of Montana	1
	United Kingdom & U. of C.	1
	McGill, Ont. T.C. & U. of C.	1
	Univ. of Sask. & U. of C.	1
University Courses That Have Proven to be of Assistance in Curriculum Development for ECS Program	None	1
	One	2
	Two	4
	Three	3
	Four	2
	Five	1
	Six or more	4
Professional Experiences That Have Proven to be of Assistance in Curriculum Development for ECS Program	None	0
	One	7
	Two	1
	Three	8
	Four	1
	Five	0
	Six or more	0

These subjects referred to numerous professional days and one-day inservice sessions provided by their school boards; since it was only one type of activity these were categorized as one experience.

These data will be referred to throughout this chapter and again in Chapter Five to examine whether teacher characteristics are related to the patterns of curriculum development described in the research findings.

Section B

Analysis of Stimulated Recall Data

The stimulated recall interview transcripts were analyzed using a coding system developed by the researcher and described in detail in Chapter 3. Some of the data lend themselves to a quantitative analysis while others can only be described. Findings which are related to five of the research questions will be reported in this section with those related to question six being left until the following section. It should be noted that the abbreviation "ILO" is used throughout this chapter, as it was in Chapter III, to denote an intended learning outcome.

Question 1: At what stages do teachers identify learning outcomes?

A major concern in this study was to discover the stages at which teachers identified their intended learning outcomes. Table 6 contains the data with respect to ILO's identified by subjects during the two preactive Stages I and II, interactive Stage III and postactive Stage IV. The number of ILO's are also shown for each stage as a percentage of each subject's total ILO's, thus permitting comparisons to be made between proportions of a subject's ILO's identified during the different stages. Some subjects showed a marked preference for identifying ILO's during Stages I and II (for example Subjects 3, 10 and 11), while others appeared to favor Stage III (for example, Subjects

Table 6

Frequency and Percentage of Intended Learning Outcomes (ILO's) Identified by Stages for Each Subject

Subjects	Stages								Total for all Stages
	I		II		III		IV		
	n	% of subject's total	n	% of subject's total	n	% of subject's total	n	% of subject's total	
S 01	17	47.2	0	0.0	17	47.2	2	5.6	36
S 02	7	28.0	8	32.0	8	32.0	2	8.0	25
S 03	2	8.3	10	41.7	8	33.3	4	16.7	24
S 04	6	27.3	1	4.5	15	68.2	0	0.0	22
S 05	4	14.8	6	22.2	15	55.6	2	7.4	27
S 06	8	40.0	3	15.0	9	45.0	0	0.0	20
S 07	4	14.3	8	28.6	16	57.1	0	0.0	28
S 08	5	27.8	2	11.1	11	61.1	0	0.0	18
S 09	4	21.1	3	15.8	10	52.6	2	10.5	19
S 10	6	27.3	12	54.5	4	18.2	0	0.0	22
S 11	10	45.5	0	0.0	7	31.8	5	22.7	22
S 12	4	10.8	14	37.8	15	40.5	4	10.8	37
S 13	6	20.7	6	20.7	14	48.4	3	10.3	29
S 14	7	30.4	6	26.1	8	34.8	2	8.7	23
S 15	10	40.0	0	0.0	13	52.0	2	8.0	25
S 16	6	20.0	5	16.7	13	43.3	6	20.0	30
S 17	10	33.3	1	3.3	17	56.7	2	6.7	30
Totals	116	26.5	85	19.5	200	45.8	36	8.2	437

4, 5 and 17). The majority, however, seem to have used the combined preactive stages and the interactive stage almost equally. Few subjects appeared to have used the postactive stage for identifying learning outcomes which had been achieved, or not achieved, during the learning episode which had just concluded. In examining the data for the entire sample, the following observations were made:

1. Interactive Stage III accounted for the largest percentage of ILO's identified at any one stage. However, when Stages I and II totals are considered together, preactively identified ILO's were approximately equal in number to those identified interactively in Stage III.

2. The number of Stage II ILO's were almost equal to the total for Stage I, indicating that some subjects at least, seem to prefer to choose the activities and learning materials they are planning to use in their classes before considering the learning outcomes which they wish to achieve.

3. Stage IV, or the postactive phase of teaching, was not used to any great extent by the teachers in this study as a time to reflect upon the learning outcomes which were achieved during the interactive phase and which might serve as a guide to future planning.

Question two which looks at the relationship between types of ILO's and the stages at which they are identified may shed further light on the above findings.

Question 2: What are the differences, if any, in the kinds of learning outcomes identified preactively, interactively and postactively?

A five part classification system, described in Chapter III, was used to examine differences in the kinds of ILO's which were identified at each of the four stages. Table 7, which presents the results of this analysis, shows that cognitions and cognitive skills accounted for the largest percentages--27.9 and 29.8 respectively--of ILO's which were identified overall.

Cognitive outcomes, i.e., cognitions and cognitive skills, also dominated Stages I, II and IV. Only in the interactive phase, Stage III, did affective and social behavior outcomes equal the cognitively-oriented ILO's which subjects identified. Affects and Social/Group Behaviors represented 16.9 and 18.1 percent of the ILO's identified overall and were more likely to be identified interactively (Stage III) than in any of the other stages.

Psychomotor-Perceptual outcomes represented only 7.3 percent of the ILO's identified at all four stages. When this type of ILO did appear, however, it was more likely to be identified preactively rather than interactively or postactively.

Another way in which differences in ILO's were examined was with regard to their level of specificity. Consequently, all of the ILO's were categorized as either general or specific. Table 8 shows that Specific ILO's represented 63.4 percent of all the ILO's identified by teachers in this study. The proportion of general ILO's was greatest for Stage I, while specific ILO's were more likely to appear in Stage

Table 7

Intended Learning Outcomes (ILO's) Classified by Stages as Cognitions, Cognitive Skills, Psychomotor-Perceptual Skills, Affects, or Social/Group Behaviors

Category	Stages								Total for all Stages	
	I		II		III		IV			
	n	% of column total	n	% of column total	n	% of column total	n	% of column total	N	% of grand total
Cognitions	42	36.2	18	21.2	49	24.5	13	36.1	122	27.9
Cognitive Skills	42	36.2	30	35.3	47	23.5	11	30.6	130	29.8
Psychomotor-Perceptual Skills	7	6.0	12	14.1	8	4.0	5	13.9	32	7.3
Affects	9	7.8	12	14.1	49	24.5	4	11.1	74	16.9
Social/Group Behaviors	16	13.8	13	15.3	47	23.5	3	8.3	79	18.1
Totals	116	100.0	85	100.0	200	100.0	36	100.0	437	100.0

Table 8

Intended Learning Outcomes (ILO's) Classified by Stages as General or Specific

Category	Stages								Total for All Stages	
	I		II		III		IV			
	n	% of column total	n	% of column total	n	% of column total	n	% of column total	N	% of grand total
General	63	54.3	31	36.5	53	26.5	13	36.1	160	36.6
Specific	53	45.7	54	63.5	147	73.5	23	63.9	277	63.4
Totals	116	100.0	85	100.0	200	100.0	36	100.0	437	100.0

III than in any of the other stages. When Stages I and II are considered together, however, the preactive ILO's are almost evenly divided between general and specific categories. In Stage III, on the other hand, the proportion of specific to general ILO's is strongly weighted in favor of the former by a ratio of 73.5 to 26.5 percent.

The ILO's were also classified according to whether they were intended for one child, a small group (two or more children) or for the entire class. Table 9 contains the results of this categorization and shows that ILO's intended for the entire class greatly outnumbered those which were intended for individual children or small groups. This was particularly true for Stages I and II where ILO's for one child or a small group were almost non-existent. In Stage III, however, there was a considerably higher proportion of ILO's identified for one child than in any of the other stages. Even then, individual ILO's still represented a slightly smaller percentage of the outcomes identified during Stage III than did the ILO's which were intended for the entire class.

When the results of the three categorization systems (Tables 7, 8 and 9) are considered together, the findings may be summed up as follows.

First, the ILO's identified preactively were predominantly for the entire class, tended to be oriented towards cognitive learnings and were evenly divided between general and specific outcomes.

Second, the ILO's which were identified interactively tended to be more specific in nature, were more likely to be focused on individual

Table 9

Intended Learning Outcomes (ILO's) Classified by Stages as Intended for One Child, Small Group or Entire Class

Category	Stages								Total for All Stages	
	I		II		III		IV			
	n	% of column total	n	% of column total	n	% of column total	n	% of column total	N=	% of grand total
One Child	1	0.9	4	4.7	81	40.5	8	22.2	94	21.5
Small Group	10	8.6	1	1.2	4	2.0	2	5.5	17	3.9
Entire Class	105	90.5	80	94.1	115	57.5	26	72.2	326	74.6
Totals	116	100.0	85	100.0	200	100.0	36	100.0	437	100.0

learners and to include a greater proportion of affective and social/ group behavior outcomes than did the preactively identified ILO's.

The data with respect to the postactive phase of teaching (Stage IV) proved to be somewhat ambiguous since the number of ILO's identified by subjects during this stage was too small to permit comparisons to be made with the same degree of confidence as for the other three stages.

Question 3: Are teachers aware that they identify intended outcomes at different stages?

The study was also designed to discover whether teachers were aware that they identified ILO's at different stages. This was done by examining the responses to three items in the interview schedule: Items 5, 8 and 9.

Item 5 asked subjects whether they had added any new learnings while the filmed learning activity was in progress. Although all of the subjects had made statements during the stimulated recall interviews which showed that they had identified additional learning outcomes for the children interactively, ten of the subjects responded negatively, that is, they did not think they had changed their intended learning outcomes or added any new ones. These responses are shown in Table 10.

Item 8 asked "Were you aware that you were adding to or leaving out any of your planned intended learning outcomes while the activity was in progress?" Table 11 shows that ten subjects claimed an awareness that this phenomenon had in fact occurred. This means that some subjects who had previously said they had not added to or changed their preactive

Table 10

Responses to the Question: Did You Add Any New Learnings? (Item 5)

Response	Frequency	Percentage of Total Responses
Yes	7	41.2
No	10	58.8
Total	17	100.0

Table 11

Responses to the Question: Were You Aware That You Added Intended Learning Outcomes Interactively? (Item 8)

Response	Frequency	Percentage of Total Responses
Yes	10	58.8
No	7	41.2
Total	17	100.0

ILO's were now claiming an awareness, in retrospect, that they had modified or added new ILO's interactively. It seems that, when reminded by the researcher of things they had said and done, several subjects began to realize that their interactive thoughts had actually represented new intended learning outcomes as defined by the researcher. Consequently, some of the subjects must have changed their minds between responding to Items 5 and 8 to the extent that they now claimed to have been aware all along that they were adding new ILO's while the interaction was taking place.

The responses to Item 9, which are shown in Table 12, add further evidence to the possibility that the interview had raised the level of awareness of some subjects, since all 17 subjects responded negatively to the question, "Does this surprise you, that you did actually add to or change your intended learnings during the activity?" Even those who had previously stated that they were unaware now claimed that they were not really surprised that this phenomenon should occur. Statements such as, "No, not when I stop and think about it" or "Not really, at least not since our discussion today," show that some subjects had only become aware as a result of the stimulated recall process that they did in fact identify learning outcomes interactively.

Item 9 went on to ask subjects who gave a negative response to the first part of the item, "Why aren't you surprised?". The comments made by all subjects to this question have been compiled and are included in Appendix E. However, no qualitative differences were observed in the reasons given by the group which claimed to be aware in response to Item 8, and those who had previously been unaware that

Table 12

Responses to the Question: Does This Surprise You? (Item 9)

Response	Frequency	Percentage of Total Responses
Yes	0	0.0
No	17	100.0
Total	17	100.0

they were identifying learning outcomes interactively.

A reason frequently given for not being surprised by this phenomenon referred to the need for teachers to be flexible and to use the input that was coming from the learners during the interaction. A typical response was this one by Subject 14:

> To me it's the natural way with young children because the learnings are so much a part of the child and you have to be aware of them and keep your expectations open to accommodate what comes up during the interaction.

Or this one from Subject 9:

> When a child responds in a way that you don't expect, you have to change what you intend them to learn . . . I can gain more from them as to where they are, like their understanding, by having them tell me and then I can take it from there and modify my plans as a result.

It should be noted that, in the first example, the subject was "unaware" while the second subject belonged to the group who had said they were "aware".

The researcher then went back and examined the responses to Item 5 to discover whether subjects, who had responded "No" when asked if they had added any learnings as the filmed activity progressed, had later responded to Item 8 by saying that they were "aware". It was found that eight of the ten subjects who later claimed to be aware had earlier replied that they had not added any new learning outcomes during the interaction.

On the other hand, it was also discovered that three subjects who had given an affirmative response to Item 5 initially -- indicating that they had modified their ILO's during the interaction -- later claimed in response to Item 8 that they belonged to the group of

"unawares".

One cannot help but conclude from the above data that many of the subjects were really not aware, at least at a conscious level, that they were identifying ILO's interactively. However, when it was brought to their attention, all were willing to justify the fact that they had done so.

Question 4: To what extent is the identification of intended learning outcomes related to information a teacher obtains from observation of the learner(s)?

This question examined to what extent the identification of learning outcomes during the different stages was related to information about children, especially information obtained by observing children during the interactive phase, since this was of particular interest to the researcher.

All of the subjects made references to information about children during the stimulated recall interviews. Examples of these comments are included in Appendix F. When comments about children seemed to have resulted in the identification of ILO's by the teachers, these ILO's were tabulated according to the stage in which they appeared and also according to whether they referred to information about an individual child, a specific group of children (two or more), or whether the information seemed to be based upon the teacher's beliefs or knowledge about children in general.

Table 13 presents the findings which resulted from this analysis and shows that 48.7 percent of all the ILO's identified by

Table 13

Number of Intended Learning Outcomes (ILO's) and Type of Information About Children From Which They Were Derived Shown as a Percentage of all the ILO's Identified at Each of the Four Stages

Type of Information	Stages												Total for All Stages		
	I			II			III			IV					
	Stage Total[a]	n	%	Stage Total[a]	n	%	Stage Total[a]	n	%	Stage Total[a]	n	%	Grand Total[b]	N	%
One Child	116	2	2.6	85	2	2.4	200	104	52.0	36	8	22.2	437	116	26.5
Group of Children	116	19	16.4	85	13	15.3	200	32	16.0	36	10	27.8	437	74	16.9
Children in General	116	8	6.0	85	3	3.5	200	11	5.5	36	1	2.8	437	23	5.3
Totals	116	29	25.0	85	18	21.2	200	147	73.5	36	19	52.8	437	213	48.7

[a]Refers to all the ILO's identified by subjects at each stage.

[b]Refers to all the ILO's identified by subjects in this study.

subjects in this study appeared to have been derived from information about learners but that the percentage of ILO's so derived varied considerably across the four stages. Stage III accounted for almost all of the ILO's based upon information about one child--104 out of a total of 116 for all four stages. Furthermore, of all the ILO's identified by subjects during Stage III (N=200), 73.5 percent resulted from a consideration by the teacher of some type of information about the needs and interests of children.

The data with respect to the extent to which preactive (Stages I and II) learning outcomes were derived from information about children must be interpreted with caution. The researcher did not conclude that less than 25 percent of the ILO's identified preactively by teachers were based upon information about learners as Table 13 seems to suggest. This study was not designed to examine the bases for teacher's curricular planning decisions. Question 4 was intended only to examine the extent to which teachers used information about children, especially if it was information obtained during interaction, in their identification of intended learning outcomes. Consequently, in discussing preactive ILO's with subjects, the researcher did not ask, "Why did you decide on those particular outcomes for this activity today?" During Stage III, on the other hand, the question "Why did you decide to do or say that (interactively)?" was frequently asked as part of the probing technique designed to elicit statements which might refer to interactively identified ILO's. This may have caused the teacher to feel called upon to justify the outcomes she identified interactively. The differential treatment with respect to the preactively identified ILO's may well have been responsible for the small proportion of ILO's

which appear to have been derived from information about learners during Stages I and II.

Table 13 shows that 116 ILO's in all were based upon information about one child. However, in referring back to Table 9 it was observed that ILO's intended for an individual child only accounted for 94 ILO's at all stages. On closer examination of the ILO's reported in Table 13 which had been derived from information about a single child, it was found that, in 28 instances, subjects had generalized an observation about an individual child to the entire group. The following example from the transcript of Subject 1 will serve as an illustration of information about one child resulting in an ILO for the group:

> They knew what it was for because I heard somebody say "My mother uses it with her make up" and somebody else called it a puff ball . . . So I told them it was called "cotton batting".

In the above example, the teacher seemed to conclude that all the children knew what cotton batting was used for because one child had suggested a single use for it. She decided that they only needed to learn the label, "cotton batting", and did not see any reason to dwell on its possible uses.

The findings with respect to Question 4 seem to suggest that, while almost half of the ILO's identified in this study at all stages was derived from information about learners, this information was an important factor in the identification of intended learning outcomes only during the interactive phase of teaching. This result is by no means conclusive and warrants further study. There was, however, good reason to believe that information about individual children did not

necessarily result in a learning outcome being identified for individuals, but was at times generalized to the entire group.

Question 5: Are there any reasons, other than the need to focus on the learner(s), for identifying intended learning outcomes at different stages?

This question examined the reasons, as perceived by teachers, for identifying intended learning outcomes at different stages. Examination of the responses given by subjects to Item 10 (Why does Stage I, II . . . seem to work well for you?) of the interview schedule led to the conclusion that teachers in this study were not at all certain as to when they identified ILO's let alone why they would want to do so at the different stages. Only when Stage III was mentioned did they become more articulate about their reasons for identifying what children were learning during interaction.

Reasons for Identifying ILO's During Stage I. Table 14 summarizes the reasons given by subjects for using Stage I and indicates the frequency for each response category. Although subjects all claimed to use Stage I to some extent, five were unable to give any reason for doing so. It almost seemed that since this was an expectation for all teachers, there was no need to give any reasons for identifying intended learning outcomes before selecting the learning activities.

Reasons For Identifying ILO's During Stage II. Table 15 presents the findings with respect to Stage II. Only six subjects gave reasons for identifying ILO's after selecting an activity but prior to the commencement of instruction. No one claimed to use Stage II

Table 14

Reasons Given for Identifying Intended Learning Outcomes (ILO's) During Stage One

Response Category	Comments	Frequency
Personal Preference or Style:		4
	S 01 I like to identify what it is I want the children to learn and then I look around for materials and ideas to teach it with.	
	S 05 When I choose an activity it's because I've thought of a purpose for it.	
	S 11 I'm a pre-planner, it doesn't matter what grade I teach.	
	S 14 I'm quite structured and I like to know where am I trying to take these little kids.	
For Long-Range Planning:		2
	S 02 I have to sit down and . . . outline the whole year's work . . . all the different concepts and skills.	
	S 06 I have to hand in two sets of Unit Plans [to the principal] . . . Because I have to write it down on paper I have to use Stage One to identify my intended learnings.	
To Introduce New Skills or Activities:		3
	S 03 When I'm going to introduce new activities, I have to think of my objectives before I choose the activity.	
	S 08 In an introductory lesson, for instance on rhyming, my objectives would be Stage One.	
	S 15 The more structured the activity, the more Stage One I use, for example if I put a new piece of equipment in the sand-box for which I had a specific objective in mind, that would be Stage One.	
For Identifying Academic Objectives:		4
	S 04 At that stage the learnings I identify are often because they're going to need it for Grade One . . . the academic things.	
	S 06 For me, I need to know what they need to know by the time they get to Grade One . . . and that's where I use Stage One.	
	S 10 Sometimes I think of a game so that they're learning a specific skill, like the letters of the alphabet . . .	
For Planning Large Group Activities:		2
	S 15 When it's planned for a large group activity the more the learnings are pre-determined.	
	S 16 For the group, I use [stage] one most often.	

Table 15

Reasons Given for Identifying Intended Learning Outcomes (ILO's) During Stage Two

Response Category	Comments	Frequency
To Identify More Specific Learnings:		3
	S 03 After you choose the activity, the intended learnings . . . I think they just increase, like they become more specific.	
	S 08 The objectives in Stage Two would be more specific than in Number One . . . Number Two would be the real nitty gritty of the planning, exactly what I'm going to do, getting the materials ready and thinking about what I'll expect the children to do.	
	S 06 Well, you change your intended learnings, make them more specific, as you see the materials you have to work with . . . like a filmstrip and I go and preview it.	
Because You Find An Interesting Activity:		3
	S 04 If you see something really neat in a store and you . . . think about what your kids will learn from it.	
	S 08 I found the game when I was looking for more . . . activities. I decided that would be a good way to start the lesson.	
	S 10 There's sometimes when you see things in a book or somewhere else and then you think of the skills it will help develop.	
Because of Last-Minute Change of Plans:		1
	S 17 I went through Stage One . . . And I chucked [my plans] in the garbage . . . and went and pulled out all the toys I could find and went to school Monday morning . . . before I started to teach . . . I decided what we would do and then identified what they could learn from the activities.	

exclusively, implying rather that they used it with Stage I. Several seemed to have difficulty in deciding whether they used Stage I or Stage II. Subjects 1 and 16 both said that they really couldn't say "which came first" -- the selection of the activity or the learning outcomes intended for the children. Subject 3 claimed that it was probably "half and half", but she wasn't certain whether she chose the activity or identified the intended outcomes first.

Reasons for Identifying ILO's During Stage III. The data with respect to Stage III were much more extensive than for the other stages. As indicated earlier in reporting the extent of awareness displayed by subjects that they had in fact identified ILO's during interaction with the children, all of the teachers had little or no difficulty in justifying the use of Stage III for this purpose. Consequently, they were able to give considerably more reasons for using the interactive stage to identify ILO's than they could for any of the other stages.

These reasons were so numerous, that it seemed wiser to place them in an appendix rather than include them in a table as was done for Stages I and II (Appendix G). For ease of reporting, they were also grouped into six broad categories which are outlined in Table 16, accompanied by an example and the frequency with which each category was referred to by subjects. Brief descriptions of these categories are provided here.

1. The Need to be Flexible and Responsive to Learners

This was the category most frequently referred to by subjects when asked why they used Stage III to identify ILO's. Even subjects who

Table 16

Reasons Given For Identifying Intended Learning Outcomes (ILO's) During Stage Three

Category of Response	Example	Frequency
1. The Need to be Flexible and Responsive to Learners	However they respond is what determines the learning outcomes. Things crop up while you're working with them that you can't predict. . . you have to be flexible and allow for whatever comes out of the activity you've planned. (S 04)	11
2. The Nature and Characteristics of Five-Year-Olds	It's so individualized, with any activity you do in ECS, they're all going to be learning something different. At this level the materials tend to involve them, that's their first interest rather than the understandings I want them to develop. (S 16)	9
3. The Need to Accommodate Individual Differences	I use Stage Three more when I'm working with one or two of the children in the learning centers when it is possible for me to see how they're using the materials and what their needs are. That's when I identify specific things that they can or can't do. (S 09)	8
4. To Identify Social and Emotional Outcomes	It [Stage Three] would probably have more than anything to do with moods and emotions and how [one child] is reacting [to another child] that particular day. (S 05)	6
5. It Comes with Experience	I've been teaching 4 and 5 year olds for about 5 years now and when I first began I suppose I was more rigid. I didn't take advantage of changing situations [to change my ILO's] as I do now. (S 15)	4
6. No Set Curriculum	It's not required that we follow any set curriculum, which is a good thing . . . it has to be changing from one day to the next. (S 05)	2

had earlier indicated a strong preference for preactive identification of ILO's were quite willing to admit that it made good sense to be aware of unplanned outcomes which arose during interaction. Subject 14, for example, who claimed to be predominantly a preplanner, stated, "You have to keep your expectations open to accommodate what comes up during the interaction." She also went on to say, however, that she used that input more for further planning than for "planning while I'm teaching them."

2. The Nature and Characteristics of Five-Year-Olds

Table 16 shows that this was the second most popular category for justifying interactive identification of ILO's. Although many of the comments were similar in some ways to the first category of responses, they also differed in that they related specifically to the age group used in this study rather than to learners in a broader sense. For this reason they were treated separately.

3. The Need to Accommodate Individual Differences

Several subjects referred to the uniqueness of each child's learning experience and to the differences in their needs as reasons for identifying ILO's during interaction. Subject 16, for example, pointed out that one child was getting "far more fun out of the painting" and enjoying the effects he was getting "than he was learning about stars." When asked if this was a valid learning outcome for him, she replied, "Well, it was interesting him, it was holding his attention, _____ has a short attention span."

4. To Identify Social and Emotional Outcomes.

Less than half the subjects referred to social or affective outcomes as a reason for using Stage III to identify ILO's, although half of the interactively identified ILO's in this study were found to be outcomes of this nature. The subjects who did make responses in this fourth category, however, also tended to be the ones who had identified the largest proportion of interactive affective and social ILO's during the stimulated recall interviews. Subject 17, who had identified six social and six affective ILO's (71 percent of her Stage III total), stated: "The self-image of the child is the most important thing . . . and his socialization". She went on to say that this was always at the back of her mind and that it "causes me to change my intended learnings all the time. To me, what a child learns is not half as important as what the child thinks about himself."

5. It Comes With Experience

It seemed that some subjects thought the use of Stage III ILO's would just increase naturally with experience. While only one subject stated that she modified her ILO's more often interactively now than when she first began teaching 4 and 5 year olds, two subjects spoke about their desire to gain more experience with the hope that it would mean using Stage III ILO's to a greater extent than they perceived themselves to be doing at the present time. For example, Subject 17 said: "I would like to get to the stage where I would use three (Stage III) most of the time."

6. No Set Curriculum

Only two subjects attributed the practice of identifying ILO's interactively to the fact that there was no prescribed curriculum for ECS, thus permitting teachers to choose activities and materials rather than intended learning outcomes during the preactive stages and to observe what children did with these during interaction.

Reasons For Identifying ILO's During Stage IV. Although the findings with respect to the frequency with which subjects in this study used Stage IV to identify ILO's had earlier indicated that it was not a particularly important stage, the data presented in Table 17 show that several subjects were able to give some very sound reasons for doing so. Of the eight who reported that they liked to use Stage IV because it was the best time to evaluate the learning activity which had taken place just previously and also as a basis for further preactive planning, only Subject 16 seemed to have actually used it for either of these two purposes during the stimulated recall interview. (Table 6 showed that 20 percent of this subject's ILO's had been identified postactively.) Furthermore, four subjects who were able to give reasons for using Stage IV had no ILO's at all credited to them in connection with the filmed activity discussed during the interviews.

The above data suggest that although teachers saw the value in identifying ILO's postactively, few of them appeared to do so in this study.

Table 17

Reasons Given for Identifying Intended Learning Outcomes (ILO's) During Stage Four

Response Category	Comments	Frequency
To Evaluate the Learning Activity:		2
S 04	That's when I think about whether the activity was successful.	
S 07	I use it to reflect on how it went o[illegible] to decide, "Another time I'll do it this way."	
For Further Planning:		7
S 01	I don't use it at all except to think of where we will go next and how can I develop a concept more or in a different way.	
S 06	I identify learnings for my afternoon group from what I observed that the morning group learned [from the activity].	
S 07	I was wanting to find out what knowledge they already had and use it in further planning.	
S 08	I would use Number Four to think, "Okay, I'll do some more rhyming," and that would be going back to Stage One wouldn't it?	
S 15	And Stage Four I would use mainly as a springboard to further planning.	
S 16	Like with _____, starting to print his own words today, I will plan now to interest him in correct formation of the letters and pay more attention to how he holds his pencil.	
S 09	I think it's just a continuation of things that I observe during the activity. Like _____ today was trying to add and there wasn't a numeral 12 [in the Math center] so tomorrow I'll put more numerals in there.	

Summary of the Findings for Question 5. The findings with respect to reasons for identifying ILO's at four different stages may be summed up as follows.

1. Although subjects readily admitted that they used all four stages for identifying ILO's, several seemed to experience difficulty in justifying the use of Stages I, II, and IV. All subjects, however, were able to give at least one reason for the interactive identification of ILO's during Stage III.

2. Reasons given for using Stage I indicate that these ILO's are necessary for long-range planning, for the introduction of new skills, for large group activities, and for academic objectives such as Grade One readiness skills. Four subjects stated that they used Stage I because it matched their own preferred style of planning and teaching.

3. Several subjects perceived Stage II ILO's as being more specific than those identified during Stage I. Use of Stage II did not, however, preclude the use of Stage I as well. Some teachers, it seems, prefer to look for activities they think the children will find interesting and enjoyable and then to think about the possible learnings which may result.

4. There are strong indications that teachers in this study perceived the identification of ILO's during interaction as a way of developing a curriculum that is responsive to

the needs and interests of children, to accommodate individual differences and to ensure that social and affective outcomes are not neglected.

5. Those subjects who provided reasons for using Stage IV saw it as a time to evaluate the learning that had taken place during the interaction and for further preactive planning.

This section has presented the findings related to five of the research questions addressed in this study. The next section will report the findings with regard to the sixth question.

Section C

Relationships Among Teacher Variables and Stage Preferences

Since this was an exploratory study many of the variables and relationships among variables were unknown. This section will present the findings with respect to the sixth research question: What teacher background variables are related to the stages at which intended learning outcomes are identified?

The data with respect to teachers' background characteristics and the extent to which they used each stage were reported in Sections A and B respectively and will only need to be referred to briefly in this section. The first finding to be reported is one that is basic to identifying relationships among these data and refers to the congruency, or lack of congruency, between subjects' stated and observed stage preferences. This will be followed by findings related to first

year teaching effects, nature and length of teacher education program, nature and length of previous teaching experience and age.

Comparison of Stated and Observed Stage Preferences

Item 10 of the interview schedule required subjects to state which of the four stages they used most often to identify learning outcomes. Their responses were used to establish a stated state preference for each subject. Column two in Table 18 reports these preferences. Six subjects said that they preferred to use the preactive stages I and/or II, four said they were predominantly interactive in their identification of ILO's, while seven claimed to use both preactive stages and Stage III to the same extent. No one referred to Stage IV as a preferred time to identify intended learning outcomes.

The determination of a subject's observed stage preference was made by calculating a ratio of preactive ILO's, identified in Stages I and II, to the interactive ILO's identified in Stage III. Since absolute frequencies were considered to be less meaningful, in terms of this study, than relative frequencies, these ratios are expressed in percentages of a subject's total ILO's rather than actual numbers of ILO's identified. Table 18 presents the results of this analysis and compares each subject's stated and observed stage preferences.

Table 18 also shows that all subjects were placed in one of five categories according to the ratios obtained by comparing preactive percentages of ILO's to interactive percentages. Since Stage IV had accounted for such a small proportion of the total, these ILO's were excluded from the data in determining observed stage preferences. If

Table 18

Congruency Between Subjects' Stated and Observed Stage Preferences

Subjects	Stated stage preference	Congruency with observed preference		Observed Stage Preference				
				Preactive	Moderately preactive	No preference	Moderately interactive	Interactive
S 01	I		No			47.2/47.2		
S 02	I - III		No	60.0/32.0				
S 03[a]	I - III	Yes			50.0/33.3			
S 04	I - III		No					31.8/68.2
S 05	I - III	Yes					37.0/55.6	
S 06	I - III	Yes			55.0/45.0			
S 07	III	Yes					42.9/57.1	
S 08	I-II		No					39.9/61.1
S 09	I-II		No				36.9/52.6	
S 10[a]	I-II	Yes		81.8/18.2				
S 11	I	Yes			45.5/31.8			
S 12	III		No			47.8/40.5		
S 13	III		No			41.4/48.4		
S 14	I	Yes			56.5/34.8			
S 15	I - III	Yes					40.0/52.0	
S 16	I - III	Yes				36.7/43.3		
S 17	III	Yes					36.6/56.7	
Totals		10	7	2	4	4	5	2

[a]Denotes first year teacher.

they had been included, it could have been argued that they belonged to the preactive rather than the interactive stage.

The following rules were established for assigning the ratios to each of the five categories.

Preactive:	the left side of the horizontally displayed ratio is 60 percent or greater.
Moderately Preactive:	the left side of the ratio is between 50 and 59 percent OR there is a difference between the two sides of ten or more percentage points which favors the left.
No Preference:	neither side of the ratio is greater than 50 percent and the difference between the two is nine percentage points or less.
Moderately Interactive:	the right side of ratio is between 50 and 59 percent OR there is a difference between the two sides of ten or more percentage points which favors the right.
Interactive:	the right side of the ratio is 60 percent or greater.

On the basis of their ratios, two subjects were found to be preactive in their stage preferences, four were moderately preactive, four were regarded as having no clear preference, five were considered to be moderately interactive and two subjects were assigned to the interactive category.

The observed stage preference which had been determined for each subject was then compared to the subject's stated preference with the results also being shown in Table 18. A stated preference was found to be congruent if the category to which a subject's ratio had been assigned was reasonably close to the stage or stages which that subject

had declared to be her usual preference. For example, a congruency was established for Subjects 3, 5 and 6 between their stated "no preference" (i.e., Stages I and/or III) and their observed preference of moderately preactive or moderately interactive. Similarly Subjects 10 and 11 were found to be congruent on the basis of their declared preference for Stages I and/or II and their observed preference of preactive and moderately preactive respectively.

The results of these analyses showed that seven teachers lacked congruency between their stated and observed stage preferences. Some subjects, for example 8 and 9, were found to have observed preferences at the opposite end of the preactive/interactive continuum from their stated preferences. It should be borne in mind, however, in interpreting these data that the stated preference refers to what the subjects perceive themselves to do most of the time while the observed preference was established on the basis of what they were observed to do before, during and after a small segment of instructional activity. There is the possibility therefore that the observed preferences may not be typical of what some subjects usually do when they identify ILO's. There is also the question as to whether the filmed segment was typical of the instructional activity in which these teachers and children are normally engaged.

It was believed, nonetheless, that some subjects were actually inclined to be more or less preactive than others and vice versa.

The conclusion was reached that teachers may not actually do what they perceive themselves to do when they are identifying intended learning outcomes for the children they teach.

First Year Teaching Effects

The researcher had expected that first year teachers, because of the recency of their curriculum and instruction courses and relative insecurity due to lack of experience, would be more likely to use the linear approach to curriculum development than their more experienced counterparts and that they would be less likely to identify ILO's interactively. This supposition was only partially confirmed by the results of the study. Table 18 shows that although one of the first year teachers in the sample had the highest ratio of preactive to interactive ILO's of all the subjects, the other was found to be only moderately preactive in her identification of ILO's. Furthermore, two of the most experienced teachers in the sample, Subjects 1 and 11, had observed ratios which placed them in the same categories as the two first year teachers. Both first year teachers were found to have congruent stated and observed stage preferences.

Nature and Length of Teacher Education Program

An examination of the data with respect to the nature and length of their teacher education program failed to show any common characteristics among subjects with similar backgrounds and those who displayed similar stage preferences. It was concluded, therefore, that there was no relationship between teacher education variables and the stages at which teachers identify intended learning outcomes.

Nature and Length of Previous Experience

Several teachers in this study had expressed the opinion that the degree to which they identified ILO's interactively would be likely

to increase with experience. This assumption was not supported by the findings since the three subjects with the greatest number of years of teaching experience, as shown in Table 19, had observed stage ratios which placed them in the preactive or no preference categories. Additionally, in no instance was the proportion of their preactively identified ILO's less than the proportion of their interactively identified ILO's.

It was further noted, as shown in Table 19, that these three subjects were the only ones who had more than two years of experience in the primary grades (1-3). In fact their primary experience ranged from 7 to 16 years. It was further observed in examining the data given in Tables 20 and 21, that all three subjects tended to have an above average proportion of their ILO's focused on the entire class(Table 20) and to have a lower than average proportion of their ILO's derived from information about one child (Table 21).

The data with respect to a second group of experienced teachers (7 to 11 years) with at least three years experience in ECS and not more than two in primary grades, was examined. These five subjects had observed stage ratios which showed a higher proportion of interactively than preactively identified outcomes. These results seem to suggest that experienced teachers without extensive experience in the primary grades before moving into ECS may be less preactive in their identification of ILO's than their counterparts who did have extensive experience in primary. This finding is by no means conclusive and will be discussed further in the next chapter.

The data pertaining to subjects with five or less years of experience, also shown in Table 19, including the two subjects who were in their first year of teaching, were examined in a similar fashion

Table 19

Relationship Between Length and Nature of Teaching Experience and Observed Stage Preference

Subjects	Years of Experience				Observed Stage Preference				
	ECS	Gr. 1-3	Other	Total	Preactive	Moderately preactive	No preference	Moderately interactive	Interactive
S 01	5	16	2	23			47.2/47.2		
S 02	5	7	5	17	60.0/32.0				
S 11	3	9	12	24		45.5/31.8			
S 15	6	2	3	11				40.0/52.0	
S 16	5	0	6	11			36.7/43.3		
S 13	3	2	4	9			41.4/48.4		
S 07	4	2	3	9				42.9/57.1	
S 05	4	2	1	7				37.0/55.6	
S 04	3	0	2	5					31.8/68.2
S 12	5	0	0	5			47.8/40.5		
S 06	2	2	0	4		55.0/45.0			
S 17	1	1	2	4				36.6/56.7	
S 08	2	1	0	3					39.9/61.1
S 09	3	0	0	3				36.9/52.6	
S 14	2	0	0	2		56.5/34.8			
S 03	1	0	0	1		50.0/33.3			
S 10	1	0	0	1	81.8/18.2				

Table 20

Frequency and Percentage of Intended Learning Outcomes (ILO's) Identified By Each Subject for One Child, Small Group or Entire Class

Subjects	Type of ILO							
	One Child		Small Group		Entire Class		Total ILO's	
	n	% of subject's total	n	% of subject's total	n	% of subject's total	N	%
S 01	4	11.1	0	0.0	32	88.9	36	100.0
S 02	4	16.0	0	0.0	21	84.0	25	100.0
S 03	7	29.2	0	0.0	17	70.8	24	100.0
S 04	8	36.4	2	9.1	12	54.5	22	100.0
S 05	7	25.9	0	0.0	20	74.1	27	100.0
S 06	6	30.0	0	0.0	14	70.0	20	100.0
S 07	7	25.0	0	0.0	21	75.0	28	100.0
S 08	7	38.9	3	16.7	8	44.4	18	100.0
S 09	2	10.5	2	10.5	15	78.9	19	100.0
S 10	3	13.6	0	0.0	19	86.4	22	100.0
S 11	3	13.6	0	0.0	19	86.4	22	100.0
S 12	1	2.7	0	0.0	36	97.3	37	100.0
S 13	5	17.2	0	0.0	24	82.8	29	100.0
S 14	4	17.4	0	0.0	19	82.6	23	100.0
S 15	8	32.0	8	32.0	9	36.0	25	100.0
S 16	6	20.0	0	0.0	24	80.0	30	100.0
S 17	12	40.0	2	6.7	16	53.3	30	100.0
Totals	94	21.5	17	3.9	326	74.6	437	100.0

Table 21

Frequency and Percentage of Intended Learning Outcomes (ILO's) Identified By Each Subject Derived From Information About Children

Subjects	Type of Information								
	One Child		Group of Children		Children in General		Total ILO's		
	n	% of subject's total	n	% of subject's total	n	% of subject's total	n	N	% of Total
S 01	7	19.4	5	13.9	0	0.0	12	36	33.3
S 02	5	20.0	3	12.0	2	8.0	10	25	40.0
S 03	6	25.0	5	20.8	0	0.0	11	24	45.8
S 04	10	45.0	5	22.7	0	0.0	15	22	68.2
S 05	5	18.5	5	18.5	2	7.4	12	27	44.4
S 06	4	20.0	4	20.0	1	5.0	9	20	45.0
S 07	8	28.6	4	14.3	4	14.3	16	28	57.1
S 08	8	44.4	3	16.7	1	5.6	12	18	66.7
S 09	6	31.6	1	5.3	3	15.8	10	19	52.6
S 10	4	18.2	6	27.3	0	0.0	10	22	45.5
S 11	3	13.6	7	31.8	0	0.0	10	22	45.5
S 12	6	16.2	3	8.1	1	2.7	10	37	27.0
S 13	7	24.1	2	6.9	2	6.9	11	29	37.9
S 14	4	17.4	2	8.7	1	4.3	7	23	30.4
S 15	10	40.0	8	32.0	1	4.0	19	25	76.0
S 16	11	36.7	7	23.3	1	3.3	19	30	63.3
S 17	12	40.0	4	13.3	4	13.3	20	30	66.6
Totals	116	26.5	74	16.9	23	5.3	213	437	48.7

to the data for the two groups of more experienced teachers. No clear patterns emerged from this analysis except for the previously reported finding that one first year subject had the greatest observed preference for preactive identification of ILO's in the entire sample.

The conclusion was reached from these findings that nature of teaching experience, rather than length, may be related to the stages at which teachers identify intended learning outcomes. In this study it appeared that experienced teachers who had taught three to six years in an ECS program, but had little or no experience in the primary grades, tended to strike a balance between preactive and interactive identification of ILO's which slightly favored the interactive stage. Teachers, however, with more extensive experience, including seven or more years in the primary grades, tended to be more preactive than interactive in their identification of ILO's.

Age and Stage Preference

The data examined to determine whether age and stage preferences might be related indicated that there were no similarities in either the observed or staged preferences of teachers who were in their twenties, thirties and forties. It was concluded that age was not related to the stages at which intended learning outcomes were identified by teachers in this study.

Summary

This section has presented the findings with respect to the sixth and final research question. It has reported that there was a lack of congruency on the part of some subjects between what they perceived to

be the stage at which they identified learning outcomes and what they were perceived to do in this study. Stage preferences were found to be related to the nature of previous teaching experience rather than simply to the years of experience. No relationship was found between the nature and length of teacher education program or age and the stages at which teachers identified their intended learning outcomes.

Section D

Other Findings

This section contains two sets of findings which, although considered of some importance, are not directly related to the six major research questions. The first of these deals with the methodology used to gather the data;the second is related to the stratified sample; while the third presents other data from the interviews.

Stimulus Points Used

A secondary purpose of the study was to explore the use of stimulated recall methodology to investigate curriculum development in classrooms. The stimulus consisted of 20 to 30 minutes of videotaped classroom interaction during a planned teacher directed activity. The number and type of stimulus points at which the video recorder was stopped is believed to influence both the quality and the quantity of information provided by subjects during a stimulated recall interview.

The data presented here will be discussed further in Chapter 5 and may prove useful for explaining findings arising from the stimulated

recall interviews.

During the interviews either the subject or the researcher could initiate the stopping of the videotape. Although the subjects did not physically engage in operating the video recorder, the researcher immediately stopped the machine whenever the interviewee began to speak. A record was made, from the transcripts, of the number and type of stimulus points which were used in each interview. These stimuli were categorized according to whether they focused on a child or a teacher behavior and whether they had been selected by the interviewer or the teacher.

An example of a teacher-selected stimulus occurred when Subject 8 began to speak and the tape was stopped at this point in the interview;

> T: They were all making a lot of noise there and I figured if the activity was going to be successful they were all going to have to start listening.

Similarly, an interviewer-selected stimulus point came about during the following episode, also with Subject 8, but focusing on a teacher behavior rather than the children's behavior as in the previous example. The interviewer stopped the tape and asked: "Do you remember what you were thinking when you called on _____ to do the first card?"

Table 22 presents an analysis of the stimulus points used during each of the stimulated recall interviews and shows that almost four times as many stimulus points were selected by the interviewer as by the teacher. This apparent reluctance of the subjects to initiate the stopping of the videotape may have been due to their unfamiliarity with the equipment, their fascination with viewing their and the children's

Table 22

Number and Percentage of Stimulus Points Focused On Child or Teacher Behavior and Selected by Interviewer or Subject During the Interviews

Subjects	Interviewer Selected		Teacher Selected		Totals
	Child	Teacher	Child	Teacher	
S 01	9	8	2	3	22
S 02	2	8	3	1	14
S 03	2	5	4	2	13
S 04	6	7	2	0	15
S 05	4	11	2	0	17
S 06	6	11	1	1	19
S 07	8	13	0	2	23
S 08	3	9	4	4	20
S 09	3	9	0	3	15
S 10	2	9	1	1	13
S 11	1	7	2	2	12
S 12	8	11	2	0	21
S 13	7	13	3	1	24
S 14	2	9	3	0	14
S 15	3	15	0	0	18
S 16	6	8	0	0	14
S 17	1	9	6	4	20
Totals	73	162	35	24	294
Percentages	24.8	55.1	11.9	8.0	100.0

interaction, or they may have been somewhat uncertain as to what was expected of them in the interview situation.

The data also reveal that there was a ratio of better than 2:1 of teacher behaviors compared to child behaviors when the stimulus points were selected by the interviewer. This is not surprising, however, since the camera was focused on the teacher rather than the children throughout the filmed episode. Also, the microphone was usually placed so that words spoken by the teacher were recorded more distinctly than those contributed by the children.

Teacher-selected stimulus points, on the other hand, did not present the same imbalance between teacher and child behaviors, possibly because subjects were facing the children during the filming and would remember what the children were saying better than the researcher would.

Although considerable variation occurred in the number of stimulus points recorded for each subject, the length of the interviews and of the typewritten transcripts was remarkably similar for all subjects. The researcher noted that some subjects seemed to require more prompting when asked to reveal their interactive thoughts. Therefore, more stimulus points were needed in some situations than in others.

Comparison of Public and Private Sample

A stratified random sample was used in this study to ensure proportional representation from public (school board) and private ECS programs. Subjects 1 to 11, inclusive, were employed by either one of the two school board jurisdictions in Calgary. Subjects 12 to 17, on

the other hand, taught in programs operated by six private ECS operators located in and around the same city.

An examination of the data contained in the Personal and Professional Questionnaire led to the conclusion that there were no real differences in the professional backgrounds of teachers between the public and private sample. Similarly, no observable differences were found between these two groups in the type of activities that were filmed, in the stage preferences stated or observed, in teachers' awareness of their identification of ILO's at different stages or in the types of ILO's which were identified. The conclusion was reached that teachers employed by public and private ECS operators are remarkably similar in the way they go about identifying intended learning outcomes for the children they teach.

Additional Findings From the Interviews

Two questions were included in the interview schedule which were not directly related to any of the six research questions or to the secondary purpose of the study. Items 11 and 12 were designed to provide additional data for the purpose of cross-validating a subject's earlier responses and of providing further insights which the researcher might find useful for interpreting the data with respect to the other questions in the interview schedule.

Since both questions were considered to be optional, they were not asked of every subject. Sometimes one or both appeared redundant: for example, if a subject had already spoken at some length, in discussing her reasons for using the different stages, about the

differences between preactive, interactive and postactive ILO's. In these instances, the researcher made the decision to omit the question entirely, especially if the interview had already been a lengthy one and it seemed best to terminate it as quickly as possible. Consequently, the data gathered from Items 11 and 12 are not considered to be as reliable as the information obtained from Items 1 through 10 which were asked of every subject. They are presented here more by the way of observations made by the researcher rather than as hard data, since they may be useful in discussing the findings in the next chapter.

Item 11. This item asked whether the subject thought there might be some differences in the kinds of ILO's which were identified at the different stages. The question was asked of only four subjects. Their responses tended to reiterate the reasons the subjects had already given for using different stages to identify ILO's. Consequently they were included in the data already reported in Tables 14 to 17 whenever they seemed to add something new.

Item 12: This question asked whether an over-emphasis on predetermined learning outcomes could have a detrimental effect in an early childhood classroom, and if so, why. Again the question was not asked of all subjects because of the length of some interviews and the fact that previously interviewed subjects tended to repeat what they had already said when they were asked to justify the practice of adding new ILO's or modifying preactive ILO's during instruction. The following example from the transcript of Subject 15 is typical of the responses given by the eight subjects to whom the question was posed.

T: I'm sure it would. It would definitely limit or inhibit learning.

I: Why?

T: Because as I said before, situations are not static and people are not static and if you don't take advantage and if you're not open to taking advantage of situations as they change, then obviously you're going to miss opportunities to encourage new learnings.

None of the respondents disagreed with the statement. Instead their comments tended to reinforce the finding that teachers had little difficulty justifying the use of Stage III for the identification of intended learning outcomes.

Other data from the interviews were more in the way of impressions and/or researcher speculation. Instead of presenting them here they will instead be referred to from time to time during the discussion of the findings.

Summary

This chapter has been devoted to a presentation of the findings. After describing the personal and professional background of teachers who made up the research sample, the data were presented in terms of the six research questions. A final section dealt with findings not directly related to the major purposes of the study.

The following chapter will contain a discussion of the major findings which have been presented in Chapter Four and the conclusions which have been drawn from these findings.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

The purpose of this chapter is to present a discussion of the findings reported in Chapter 4 and to relate them specifically to the background and purposes of the study which were presented in Chapter 1. The chapter also contains the conclusions which were drawn from the findings.

Discussion of the Findings

The primary purpose of this study was to investigate the identification of intended learning outcomes (hereafter referred to as ILO's) by teachers who were engaged in classroom curriculum development. The data were gathered by means of a stimulated recall interview which focused upon a 20 to 30 minute period of instruction which had been filmed earlier the same day as the interview. This segment of instruction will be referred to as the stimulus activity which was discussed with subjects during the interview.

Six research questions were used to guide the investigation and the data analysis. These questions are:

1. At what stages do teachers identify intended learning outcomes?
2. What are the differences in the intended learning outcomes identified at different stages?
3. Are teachers aware that they identify intended learning outcomes at different stages?

4. To what extent is the identification of intended learning outcomes related to information obtained from observation of the learner(s)?
5. Are there any reasons, other than the need to focus on the learner, for identifying intended learning outcomes at different stages?
6. What teacher background variables are related to the stages at which intended learning outcomes are identified?

A second purpose for the study was to explore the use of stimulated recall methodology for curriculum research at the classroom level.

The major findings reported in Chapter 4 will be discussed in the following order: (a) findings which are related to the stages at which ILO's were identified, including the subjects' awareness of the process of identifying ILO's and the reasons given by them for using the different stages; (b) findings related to the types of ILO's which were identified at the different stages; (c) findings related to the use of information about the learner(s) as a basis for identifying ILO's; (d) findings with respect to relationships among teacher variables and the stages at which teachers identify ILO's; and (e) findings related to the use of stimulated recall for investigating classroom curricula.

The findings to be discussed in this section have been reported in Chapter 4. However, informal observations and impressions gathered by the researcher during the interviews may also be referred to from time to time to support the data which were gathered and analysed in a more systematic manner. These researcher observations will be supported

and clarified whenever possible by direct quotes from the interview transcripts.

Findings Related to the Stages at Which ILO's Are Identified

This study has added one more piece of evidence to the already substantial body of research which shows that the widely accepted linear model of curriculum development bears little resemblance to what teachers actually do when they engage in curriculum planning at the classroom level. The data presented in the previous chapter clearly indicate that teachers in this study identified ILO's at four different stages, two preactive, one interactive and one postactive.

ILO's Identified Preactively. Several researchers (e.g., Zahorik, 1975; Morine, 1976; Clark, 1978) have concluded that "objectives are not a particularly important planning decision in terms of quantity of use" (Zahorik, 1975, p. 137) and that "objectives are seldom the starting point" for lesson planning (Clark, 1978, p. 1). McCutcheon (1980) suggests that "the objectives-first model persists and has been influential because it is sensible: it seems as if it would work" (p. 5). Nevertheless, she concludes that the model does not adequately describe teachers' planning practices. Results of the present investigation tend to support these conclusions.

Although this study was not designed to examine either the proportion of time teachers spent on objectives prior to instruction, or the importance attached by them to identifying ILO's as part of their preactive planning, it does provide some evidence that little serious thought had been given by these subjects to expected learning outcomes prior to the interviews.

Two findings lend support to this statement. The first has to do with the uncertainty demonstrated by subjects when asked what they intended the children to accomplish as a result of the activity that had been planned for the videotaping session, while the second lies in the difficulty experienced in eliciting from subjects their reasons for using Stage I to identify ILO's as part of their regular planning routine.

Several subjects appeared to be almost surprised when asked, "At this point, did you know what you intended the children to learn from this sequence of activities?". The hesitation with which many responded can be seen in the following examples from the transcripts:

> T. Not specifically, no.
>
> I. Did you have any general ideas then about intended outcomes?
>
> T. Well, generally it was just an activity to get everybody together and also just generally, picking up on colors and getting everybody counting and involved.
>
> T. It was just sort of general knowledge of turtles. We had been working on the letter T and I decided that we would make turtles because it starts with a T. And so, just make the turtles and that's it, we were going to have some general knowledge on what turtles were.
>
> T. No, not really, what I was planning to do was really a recap of what we had done previously, the concept of air and wind .

Many subjects also appeared uncertain whether they had identified their preactive ILO's for the day of the interview in Stage I, i.e., before choosing the activities they were planning to carry out, or during Stage II, after they had chosen the learning activities. This uncertainty could be interpreted as implying that they had not given very much thought at all to the outcomes intended for the stimulus activity until asked to identify them at the beginning of the stimulated recall interview.

Because of teachers' ambivalence as to whether they used Stage I or Stage II, the researcher encountered some problems in deciding to which stage some subjects' preactive ILO's really belonged. (This was discussed in Chapter 3 with respect to the reliability of the coding system for categorizing ILO's by stages.)

At the conclusion of the interviews, subjects were asked when they preferred to identify ILO's and why this seemed to work best for them. The fact that five subjects did not provide even one reason for using Stage I, although all claimed to use it to some extent, provides some evidence that a consideration of ILO's may not be a particularly important part of their normal preactive planning. Furthermore, of those who provided reasons for using Stage I, no one referred to the specification of desired ends as essential for ensuring that suitable activities for achieving those ends would be planned, i.e., the rational basis for using the objectives-first model. Instead, several subjects spoke of using Stage I because of personal preference or style -- "because I've always been a pre-planner" -- or because it was necessary for introducing new skills and for identifying the "academic things" which the children would need in Grade One.

Justification for using Stage II to identify possible learning outcomes which might result from the planned activity, referred to the need to make Stage I ILO's more specific or because a teacher might come across an interesting idea in a book. The most important criterion for selecting an activity seemed to be whether it would be interesting to do.

Several teachers spoke of choosing an activity because it had worked well the previous year or because she "always used this book to

teach sounds." The impression was given that ILO's were somehow implicit in the materials and activities themselves, leaving some question in the researcher's mind whether any explicit consideration had been given to desired outcomes.

A frequent comment made by subjects when asked if they had identified any intended learning outcomes prior to commencing instruction was that certain outcomes were "on-going" all year, that they were constantly at the back of a subject's mind so that she didn't really need to think of them every day, and that she used every opportunity that came up to bring them to the children's attention. The following excerpt from the one subject's transcript will serve to illustrate this point.

> T: That's a very important concept and I teach it all the time whenever the opportunity arises.
>
> I: Do you plan your activities with that in mind?
>
> T: Oh I don't have to, I'm just aware of it and I use everything that is available to reinforce it all the time. The same with learning to share time with others and to take turns.

Additional evidence that the identification of ILO's may not have fulfilled an important role in the preactive curriculum planning of these teachers may be seen by examining the kinds of ILO's which were identified in this study. Table 8 showed that the largest proportion of Stage I ILO's were general rather than specific. For example, one subject wanted them to work on "number skills and on some language art skills" while another wanted them "to develop their rhyming skills" and still another said she wanted them to have "their self-image remain good."

Although it was not the purpose of this study to evaluate the intended learning outcomes identified by the subjects, the investigator could not escape noting that many subjects seemed to be extremely hazy in their own minds about the learning outcomes they hoped the children would accomplish as a result of the planned sequence of activity which was filmed and discussed during the interviews. Even when the ILO's became more specific, as they sometimes did during Stage II, there was little evidence that preactively-identified learning outcomes were part of a systematic plan to help children learn or, as recommended by Weikart (1972) to provide a rational base "for deciding which activities to include in the curriculum plan and which to omit" (p. 40).

The researcher concluded that teachers must carry around "inside their heads" a number of reasons for justifying their planned instructional strategies, reasons which they are able to produce when asked to do so, stating that they were "at the back of their minds" all the time. How many of these "on-going" objectives, which teachers claim to have in mind all year, are "intended learning outcomes" as defined in the literature and in this study, remains in some doubt at its conclusion. It does seem however, to warrant further investigation.

ILO's Identified Interactively. One of the more surprising findings in this study was the extent to which teachers reported thinking about intended learning outcomes during interaction. Previous studies using stimulated recall to analyze teachers' thoughts during instruction (Marland, 1977 and Cooper, 1979) reported that less than 5 percent of teachers' interactive thoughts were categorized as goal statements. Conners (1978) also found that relatively few interactive thoughts were related to lesson objectives or content.

It should be noted, however, that the present study was not designed to examine what proportion of the subjects' interactive thoughts was related to ILO's but rather to determine what percentage of the subject's total ILO's was identified at each of the stages.

The findings of the present study are comparable to those of Pylypiw (1974) whose subjects ranked Pattern III (which corresponds to Stage III in this study) first in terms of extent of use for identifying specific learnings but who were found to have used Pattern I (the linear model) almost as often as Pattern III.

While the proportion of ILO's identified interactively by subjects in the present study was no greater than the combined ILO's attributed to the two preactive stages, subjects were found to be much more articulate in justifying their use of Stage III than they were for the other stages. It is possible, however, that the stimulated recall methodology focused more attention on the interactive stage than on the preactive stages and may have been at least partly responsible for these findings.

The reasons most frequently referred to by subjects for using Stage III spoke of the necessity for teachers to be responsive to learners and to accommodate individual needs and differences among children. It seems that these reasons need not, in the view of the researcher, be restricted to an ECS or kindergarten setting but should also be applicable to teaching in the grades. This leads to the possibility that interactive identification of ILO's may also be part of the process of classroom curriculum development used by teachers at other levels of education. It is certainly consistent with the reasons given

by Pylypiw's Grade 4, 5 and 6 teachers, who said they used Pattern III because it allowed for more pupil participation in determining the curriculum and "avoided the development of a teacher-centered program" (p. 109).

Although able to justify having used Stage III to identify ILO's, the data indicate that many of the teachers were really not aware, prior to participating in the present study, that they did in fact think about new learning outcomes during the classroom interaction. Several subjects who had answered "No" to the question, "Did you add any new ILO's during the stimulus activity?" later claimed to have been aware that they had added ILO's during the interactive stage. Furthermore, subjects who reported having been unaware of the occurrence of this phenomenon later claimed that they were not really surprised that this should have happened. When asked why they were not surprised, no qualitative differences could be found between reasons given by the "aware" and the "unaware," since all subjects spoke of the need for teachers to be flexible and willing to change preactive ILO's on the basis of the input that was coming from the learners, i.e., the way the children responded to the materials and activities which the teacher provided.

The identification of ILO's during interaction was observed to be more than simply an additive process. There were several instances when preactively identified outcomes were omitted because of a seeming lack of interest, or because the children had been sitting long enough and were getting "fidgety." Preactive ILO's sometimes appeared interactively in a more specific form than had been identified before the interaction took place. Interactive ILO's were also more likely to be

directed towards individual children than were preactively identified learnings. These findings lend support to the belief expressed by curriculum theorists that any curriculum has to be adjusted to meet the needs and interests of a particular group of learners as well as to the argument for identifying objectives through contact with pupils and through careful observation of children during the interaction which takes place in a classroom (Miel, 1973).

Some subjects seemed to be more aware than others of the need for teachers to take advantage of unexpected or spontaneous learning opportunities which arose during the interactive phase. Several expressed the belief that this was the real challenge of teaching young children and when asked by the researcher, agreed that an over-emphasis on predetermined learning outcomes could result in a teacher being less aware of the information coming from the children and thus inhibit or limit the learning which could have taken place.

The question of a possible relationship between planning and sensitivity to pupils was studied by Zahorik (1970) who found that those teachers who had thoroughly planned an experimental lesson, including behavioral objectives and a detailed outline of content to be covered during a two-week period, showed less "honest" or less "authentic" use of the pupils' ideas during the lesson than the teachers who were not provided with a plan. He concluded that the typical planning model "makes teachers less sensitive to pupils" (p. 144). Although far from conclusive, the findings in the present study do at least suggest a similar relationship and will be discussed further in the section related to teacher variables.

The data with regard to the subjects' lack of awareness of their interactive identification of ILO's, at least at a conscious level, raises the possibility that increasing this awareness might have the effect of increasing the effectiveness with which teachers identify "expressive objectives" (Eisner, 1969) and engage in what Miel (1973) calls "planning in the round."

ILO's Identified Postactively. There appear to be two distinct purposes for identifying ILO's during Stage IV: to reflect upon the learning outcomes which had been achieved, or not achieved, during a period of instruction which has just terminated; and to identify ILO's which need to become part of future preactive plans. The reasons given by eight subjects for using Stage IV to identify ILO's (shown in Table 17) confirmed these purposes. A more surprising result, however, was the small proportion of ILO's identified by subjects postactively in connection with the stimulus activity which had just ended. Five subjects had no ILO's at all attributed to this stage, and those who did tended to identify ILO's which were almost a continuation of those they had identified preactively.

Conspicuously absent from the interview transcripts were comments which might indicate that ILO's for the following day or week had resulted from observations made on the day of the interview. Comments such as the following were given by many subjects in response to the question: "Is there anything that you intend to do tomorrow or next week as a result of what happened during the activity today?".

T: No, I don't think so, we'll probably just do some more of the same.

T: I think I'll just continue with more rhyming activities.

T: Not really, not that I can think of.

Even when activities the teacher said she might plan for the next day were mentioned at this point in the interview, they did not appear to be part of a consistent overall plan. Statements like "It would probably be the same kinds of things we did today" or "We'll continue talking about turtles and just whatever else comes up that they show interest in," gave the impression that planning, during the postactive stage at least, tended to be somewhat haphazard.

There were, nonetheless, several notable exceptions to the failure of subjects to use Stage IV as a time to reflect on the planned and unplanned learning outcomes which had been observed during the interaction. For example, one subject noticed that a child had begun to print his own words (and sentences) rather than wait for the teacher to record them in his "space" booklet. The subject later reported thinking postactively that this child "needed now to be moved towards learning the correct form." She planned to provide him the following day with some letter models to refer to when he was printing.

The lesser extent to which subjects made use of Stage IV compared to the other stages may be accounted for by the researcher's observation that teachers in this study seldom engaged in postactive evaluation of the learning which had occurred. Any evaluative statements which were made tended to focus on the activity rather than on the planned learning outcomes. Comments such as "They seemed to enjoy it," or "I think the activity went well" appeared infrequently in the interview transcripts.

Most subjects seemed to have a "game plan" for a specific unit or for the month and indicated that they would probably continue to follow it. These plans usually focused on activities rather than objectives. Several admitted that their plans were more related to what the children would need in Grade One than to anything they had observed during the stimulus activity. For example,

> T: I'll definitely do some more printing lessons, because they seemed to enjoy it and they need to know how to form their letters for when they go to Grade One. And I'll get some popsicle sticks and go into counting by fives.
>
> I: Why do you plan to do that?
>
> T: Well, it will help them with adding, you know, when they get to Grade One.

This apparent preoccupation by several teachers with preparing the children as a group for Grade One seemed to dominate even their postactive planning and prevent them from looking at individual needs and interests in identifying ILO's postactively. One subject said she didn't expect all the children to get everything they needed for Grade One but she did expect 75 percent to get it.

There was also a tendency shown to evaluate an activity in a global manner "because it seemed to go well" rather than on the basis of the specific learnings which had been observed during interaction. This may be one area where teachers could use further training.

Findings Related to Types of ILO's Identified

The results of this study showed that teachers, even at the preschool level, tend to be more concerned with outcomes for the entire class than for individuals and with cognitive rather than affective or

social development. This finding was evident during all of the stages at which ILO's were identified except Stage III, where social and affective outcomes equalled the number of cognitive ILO's (cognitions and cognitive skills) identified interactively. Although ILO's for the entire class still outnumbered those for individuals during Stage III, their proportion was considerably reduced from what it was in the two preactive stages. The researcher believes that there may be a relationship between these findings and the apparent emphasis placed by many of the subjects on "getting the children [as a group] ready for Grade One." If this relationship does exist, it would explain both the apparent emphasis on cognitive development and the relative absence, especially in the preactive stages, of ILO's intended for individual children. It might also account for the increased attention given to social and emotional outcomes and to ILO's for individuals during Stage III, when teachers are known to become more concerned with children than with subject matter.

Morine (1976) and Peterson, Marx and Clark (1978) reported that the largest proportion of teachers' planning time was spent dealing with the content (subject matter) to be taught. The findings that, especially in their preactive ILO's, the subjects in the present study seemed more concerned with cognitive skills and cognitions than with affects and social group behaviors--and with outcomes for the entire class versus individuals--leads to the possibility that kindergarten teachers, in the absence of text books and reading programs which define the content of a specific grade, have nevertheless substituted the cognitive skills and cognitions they believe the children "need for Grade One" as the subject matter to be taught in the ECS classroom.

These findings, supported by many comments in the transcripts about wanting the children to be ready for Grade One, and also by the type of learning outcomes which teachers had planned for their stimulus activity, are somewhat surprising in view of the stated philosophy and purpose of ECS in Alberta which is: "to strengthen the sense of dignity and self-worth within the child and his family" (Alberta Education, 1973, p. 4). Unless of course, these teachers believed the best way to build confidence and self-esteem in a child is to enhance his cognitive development.

The likelihood of interactive ILO's giving increased attention to social and emotional outcomes is well documented in the transcripts and suggests that, during instruction, the child's needs are more likely to become a focus of concern for teachers. For example, several subjects reported that during the activity "is when you can see how a child is responding on a particular day" and inferences about his emotional needs can be made. As one subject said, "That's the time when you consider the outcomes that are more social and emotional, and you might leave out some of your pre-planned objectives because of the way they are responding to the lesson."

It was very obvious from the transcripts that subjects believed that they were not only giving more attention to affective and social development outcomes during instruction than they were in the preactive stages, but that they were also more concerned with ILO's for individuals in Stage III. The reasons given for using Stage III to identify ILO's also showed that teachers thought this stage presented the best opportunity for them to adapt the activities and the ILO's to the individual because, "the same activity doesn't provide the same learning

for each or for every child," or as another subject expressed it, "ILO's are probably more individual and more specific" during Stage III. The analysis of the ILO's identified during the stimulated recall activity, however, show that while there were more ILO's identified for individuals attributed to Stage III, the largest proportion even at that stage was still made up of ILO's for the entire class. It is possible that the attention which teachers perceive themselves to be giving to individual children both preactively and interactively may not be congruent with what they actually do.

As expected, the proportion of general ILO's decreased across the stages with the largest proportion at Stage I and the smallest at Stage III. (Because of the small number of ILO's identified in Stage IV, these ILO's were excluded from the analysis of differences among stages). Conversely, specific ILO's increased in number progressively from Stage I to Stage III. These trends give rise to the speculation that Stage III ILO's may actually be Stage I ILO's in a more specific form, or that they may be specific manifestations of the "on-going" objectives which teachers carry around "in their heads" and which were discussed in a previous section of this chapter.

Because of the very small proportion of ILO's which were categorized as psychomotor-perceptual skills in this study, differences in the proportion of these ILO's across the stages will not be discussed. However, it should be noted that a seeming neglect of this category is somewhat surprising, given the action-oriented tendencies of five-year-olds.

Findings Related to Use of Information About Learners

One of the research questions in this study asked to what extent observation of children and information about their needs were related to the stages at which teachers identified their ILO's. Previous research (Boniferro, 1976) had found that only a small proportion of kindergarten teachers' preactive curriculum planning decisions was based upon information about their pupils and that observation of pupil behavior was the least used activity described by teachers in developing their curriculum plans. These findings were supported in the present study to the extent that less than 25 percent of the preactive ILO's (Stages I and II) appeared to have been based upon information about one child, a specific group of children, or beliefs about children generally (i.e., learning theories, developmental stages, etc.).

The literature on developing a child-centered curriculum, however, seems to suggest that since information about the needs and interests of learners is most often obtained during the interactive stage, this stage should also be the one at which information about children would result in the identification of ILO's derived from that information. This expectation was confirmed by the findings, shown in Table 13, that Stage III accounted for by far the greatest proportion of all the ILO's attributed to information about children (147 out of a total of 213) and that more than half of the ILO's identified during Stage III were derived from information about an individual child.

The finding, however, that only five percent of the preactive ILO's (Stages I and II combined) were based upon information about one child must be interpreted with caution. There is a possibility that the

probing techniques which were part of the research methodology may have resulted in subjects feeling more encouraged to talk about the bases of their interactive rather than their preactive ILO's. Reasons given for identifying Stage I and II ILO's were, for the most part, gratuitous statements. The problem of bias in the methodology was discussed in Chapter IV in relation to Question 4.

Although teacher effectiveness was not a focus of this study, the researcher noted that some teachers appeared to be much more aware of children and of what they were learning during instruction than others. Given the recognition by early childhood curriculum specialists that observation of children is the key to developing a responsive curriculum based upon learner needs and developmental levels, skills associated with observing children and assessing what they are learning as they interact in a classroom might also be the same skills required for a more effective use of Stage IV than was seen in this study. Informal observations made by the researcher during the interviews tend to reinforce this possibility.

The findings with respect to the extent that teachers base their ILO's on information gained by observing children during interaction are by no means conclusive. It is, however, one area which warrants further study by those who subscribe to the belief that the early childhood curriculum should emerge, ideally, from "each teacher's planful interaction with the individuals comprising a particular group of children" (Jones, 1970, p. 4).

Findings Related to Teacher Variables

The findings of this study do not support Pylypiw's (1974) conclusion that age and length of teaching experience influence the curriculum development patterns used by teachers and that younger, less experienced teachers tend to favour use of the linear model.

Pylypiw speculated that young, less experienced teachers, "who are in closer proximity to their teacher education programs," might prefer to use the linear model because of "the thorough grounding which they received in this form of curriculum development" (p. 248). This suggestion also was not supported in the present study. Length of teaching experience did appear to have some effect on stage preference of subjects in this study, but it was not in the direction suggested by Pylypiw.

While it is true that the largest observed ratio of preactive to interactive ILO's was attributed to a first year teacher, it should also be noted that the second strongest preference for preactive identification of ILO's was found to belong to a teacher with 17 years of teaching experience. Furthermore, another first year teacher in the sample was found to be only moderatively preactive in her observed stage preference. These findings lead to the possibility of variables other than length of teaching experience influencing the stages at which teachers identify their ILO's. The data do suggest, for example, a possible relationship between the nature of previous experience and the stages at which experienced teachers identified their ILO's.

Three groups of teachers were singled out for closer scrutiny in an effort to discover the possibility of a relationship between

length and nature of teaching experience and the tendencies of these teachers to be either preactive or interactive identifiers of ILO's. These groups were:

(a) three subjects with the greatest number of years total teaching experience, including at least seven years in primary (Grades 1-3);

(b) five subjects with between 7 and 11 years total experience, including no more than two years in primary; and

(c) nine subjects who had between 1 and 5 years total experience and 0 to 2 years in primary.

The only group which appeared to have similar stage preferences, both stated and observed, was group (a). Two subjects had declared themselves to be mainly preactive identifiers (Stage I), while the other said she thought she used both preactive and interactive stages; however, this subject had an observed stage preference ratio which favored the preactive stages. None were found to have an observed stage preference which was even moderately interactive.

Relying on the researcher's informal observations and the data reported in Tables 20 and 21 (Chapter 4), it was observed that these three subjects had a larger proportion of their ILO's intended for the entire class than most of the other subjects. They were also found to have used information about one child in deriving their ILO's less often than the majority of other subjects. These observations led to the possibility that years of teaching in the primary grades may have caused these subjects to become so oriented towards the group and towards a

standard curriculum as to overlook the needs of individuals within the group. The following excerpt from one subject's transcript will serve to illustrate this idea.

> T: I was noticing that our printing was very bad, we haven't got the idea that, you know, of spacing between letters and between words . . . and also I have two very structured Grade One teachers [across the hall] and there's no way that you would go to their rooms and do sloppy printing or that stick made from the bottom up and I was trying to get the idea across of correct formation, that the stick comes down and the ball starts at the top. This is what we've been practicing in the air since September.

Quite apart from the stimulus activity, in this instance a formal printing lesson, being a somewhat questionable activity for an ECS class, it was obvious that the lesson had been planned because of the teacher's global assessment of the children's needs: "Our printing was very bad." A more individualized approach, on the other hand, was observed in another classroom (also in the context of learning to print) where emphasis on preparation for Grade One did not appear to dominate the teacher's planning decisions. This subject, although experienced in ECS, had not taught in the primary grades. She merely noted, while the activities were going on, that one child had, on his own initiative, begun to print in his activity book. Her reaction to this observation was to plan for the following day to provide him with some models of the alphabet so that he could "be moved toward correct letter formation."

If, as the data seem to suggest, extensive experience in the primary grades may lead to a preoccupation with the "academic things" children are perceived to need for Grade One, does it also result in a teacher being less open to the possibilities of identifying ILO's interactively? Should teachers with extensive experience in primary grades

be considered suitable candidates to teach in ECS programs? This study suggests that, in some cases, they should not.

Pylypiw (1974) speculated that recency of the teacher education program might be responsible for younger, less experienced teachers favoring the linear approach. Quite the opposite was observed in the case of one first year teacher who, in the estimation of the researcher, appeared to be very aware of individual children during instruction and of the learning that was taking place interactively. Evidence of this awareness may be seen in the following.

> T: I was thinking that I can see possibilities for this activity but I think that my directions [preactively determined] limited them. With the pictionaries they did some really elaborate drawings and I could have gotten a full-blown story out of them had I wanted it . . . and I said, "No, what is your word?" So I got "teepee." Had I said "What is your picture about?" I'm sure I would have got some really beautiful stories. So, I think that time considerations and my directions, what I wanted them to do, limited what they actually could have done.

The other first year teacher did not display the same awareness as did the teacher quoted above. Her reasons for having chosen the learning activities which served as the stimulus for the interview seemed to be largely unrelated to information about children. Instead, they appeared to be based upon ideas she had garnered in other kindergarten programs in which she had been a substitute teacher.

> T: A lot of these activities, right from the beginning of the year, for example the numbers, right from day one, as a way of having them learn their numbers. Like calendars, I've always just thought of calendars and even before starting to teach, like I substitute taught, and I nearly always saw calendars, so I guess it was just natural that I would have one.

The difference which was evident in awareness of children and

in the approach to curriculum planning of these two teachers may be atributed to differences in personality or other idiosyncratic factors. It is also possible that the linear model may not have been stressed to the same degree in one subject's program as in the other's since there are different routes by which teachers may qualify for an ECS Diploma.

While the contrast between the approach used by each of these first year teachers suggests that recency of the teacher education program may be a factor in determining the extent to which a teacher tends to be either a preactive or an interactive identifier, the data are largely based on informal observation and are far from clear on this point.

The researcher did conclude, however, on the basis of these informal data, that those who appeared best able to fulfill their role as early childhood curriculum developers were those who were able to strike a balance between preactive determination of ILO's and the identification of learning outcomes while interacting with learners. One subject who seemed to have achieved this balance (and who had received her earlier teacher education in the United Kingdom) described the process in these words:

> T: Well, I anticipate what they might learn before choosing the activities, but it's so individualized, with any activity you do in ECS, different children, they're all going to be learning something different and it's up to me to find out what that is so that I can help them with the next step, by providing the right materials and asking the right questions of them.

While much of this discussion of the relationship between length and nature of previous experience, recency of teacher education program, and stage preferences of subjects, has been in the realm of speculation,

further investigation appears to be warranted.

Findings Related to Use of Stimulated Recall

A secondary purpose of the study was to explore the use of stimulated recall methodology for investigating classroom curriculum development.

This study has shown that stimulated recall has several advantages over other methods which have been used to investigate the process of curriculum development such as questionnaires, interviews, content analysis of lesson plans and teachers' self-reports of various kinds.

Teachers in this study reacted favorably to being asked to recall what they were thinking while the interaction was going on. Many of them said they found it to be a stimulating and enjoyable experience while others said it really made them think about the bases for their interactive decisions. The following examples from the interview transcripts support this finding.

I: Is there anything you plan to do tomorrow or the day after as a result of what happened here today?

T: Now, you're going to make me think, eh?

T: This is fascinating. I didn't know a teacher did all that at once.

Although Marland (1977), Conners (1978) and others who have used stimulated recall to investigate the interactive thinking of teachers, recommended a period of familiarization, one week or more, in order to train the teacher to recall her interactive thoughts and to operate the video equipment, this was not found necessary for the purposes of this study. There may even be certain advantages associated with going into each subject's classroom for a shorter period of time.

For example, there may be less risk of influencing the behavior of the teacher than when the intervention goes on for several days or weeks. Since the filming and the interview were all accomplished in one day, demands made on teachers' time and the disruption of the regular classroom routine were minimized.

The methodology permits the researcher to observe the classroom interaction without being seen in the role of an evaluator. By observing the classroom in action, yet remaining relatively unobtrusive, the present study allowed the investigator to "see" the functioning curriculum which Zais (1976) distinguishes from the "inert" curriculum plan and which few have attempted to study.

The methodology also has its weaknesses. There was a good deal of equipment, electric cords, etc. which had to be placed in each classroom and transported from one location to another, thus limiting the number of subjects who could be included in the study.

A more serious problem arose with the selection of stimulus points at which the videotape was stopped. The researcher had no way of knowing whether enough of these points were used or whether the ones

which were chosen were appropriate for ensuring that all of the intended learnings considered by the teacher during the activity were in fact revealed. It is possible that if more or fewer stimulus points had been used results might have been different. No way was found of limiting the length of time a subject spoke each time the videotape was stopped and a probing question asked. Consequently, fewer stimulus points had to be used with some subjects than others so that the interviews would not go beyond the 60 to 90 minutes that had been promised by the researcher.

A further consideration with respect to the use of stimulated recall methodology to investigate classroom curriculum development has to do with the type of classroom activity that is appropriate for this purpose. Although this study used a teacher-directed activity in an effort to control some of the task variables, another appropriate stimulus might have been to have filmed children working in a learning center while the teacher watched and/or guided their activity. The preactive intended learning outcomes could either have been written or reported verbally by the teacher before the video-taping took place.

There is a possibility that the methodology may be more useful for investigating research problems which are related to interactive rather than preactive curriculum concerns. This weakness has already been pointed out with reference to research question four. However, if the bases for teachers' preactive curriculum decisions were not brought out to the same degree as for their interactive decisions, this is a flaw which could be corrected in future research of this nature. Given previous research findings with respect to the influence of information about children on preactive curriculum decision making, the findings in this study are at least not incompatible.

The conclusion was reached, at the end of this study, that the stimulated recall methodology may yet "unite the concerns of researchers on instruction and teacher behavior with those of researchers on curriculum" (Clark & Yinger, 1977, p. 301). It is a goal which this researcher believes to be worth pursuing.

Conclusions

Because of the exploratory nature of this study, no firm conclusions were anticipated. Those which have been reached are at best tentative and still remain to be tested by studies of a more rigorous nature. Nevertheless, the following conclusions are supported by the findings. Once again the six research questions provide the framework for reporting.

Question 1: At what stages do teachers identify intended learning outcomes?

This study has shown that teachers do identify intended learning outcomes at four different stages, two preactive, one interactive and the other postactive. The subjects were found to identify as many learning outcomes interactively as they did preactively. The postactive stage was not used to any extent by most subjects as a time to identify learning outcomes which had been achieved or not achieved during the interactive stage and to use this information as a basis for further preactive planning. There is also some evidence that teachers may not consider the identification of intended learning outcomes to be a particularly important component of their preactive curriculum planning. Although most subjects used both the combined preactive stages and the

interactive stage for identifying intended learning outcomes, several tended to use one more than the other.

Question 2: What are the differences in the intended learning outcomes identified at different stages?

Kindergarten teachers in this study identified more cognitive outcomes, on the average, than any other type of learning outcome, at every stage except the interactive one (where cognitions and cognitive skills equalled the number of social and affective outcomes), leading to the conclusion that cognitive outcomes, especially those considered necessary for the child to perform well in Grade One, are considered by teachers as the "subject matter" to be taught in the ECS program. Some differences were also found to exist among the stages.

(a) Preactively identified intended learning outcomes tend to be addressed to the entire class, rather than to individuals; are as likely to be general as specific; and are predominantly concerned with children's cognitive development.

(b) Interactively identified learning outcomes tend to be more specific than those identified preactively; are more likely to focus on individual learners; and are more concerned with children's social and emotional development than those which teachers identify in the preactive stages.

(c) The postactive stage did not account for any differences in types of ILO's.

Question 3: Are teachers aware that they identify intended learning outcomes at different stages:

The findings related to teachers' awareness or non-awareness of when they identified intended learning outcomes were among the most conclusive of any in this study. The data strongly suggest that many teachers are not aware, at least at a conscious level, that they do identify learning outcomes interactively and that these outcomes are often quite different than their preactively determined intended outcomes. The evidence also raises the possibility that awareness of this phenomenon may be related to teachers' effectiveness in planning and implementing a curriculum that is responsive to the needs of learners. The conclusion was reached that the stimulated recall interview had served to increase the awareness of several subjects.

Question 4: To what extent is the identification of intended learning outcomes related to information obtained from observation of the learner(s)?

Teachers seem to identify only a small proportion of their preactive intended learning outcomes as a result of having considered information about their pupils or about children generally. The question of how other preactive learning outcomes were derived, if not from information about learners, was not adequately answered in this study. In the interactive stage, however, findings indicate that a large proportion of the learning outcomes identified by teachers were based upon a consideration of information about their pupils, especially about individual children, their needs and interests. There was some indication that information about children may be an important factor in the

effective use of the postactive stage for curriculum planning. And finally, it was concluded that the attention which teachers in an ECS classroom perceive themselves to be giving to individual needs and interests may not be congruent with what they actually practise in their identification of intended learning outcomes.

Question 5: Are there any reasons, other than the need to focus on the learner, for identifying intended learning outcomes at different stages?

The findings in relation to this question indicate that there are several reasons for identifying intended learning outcomes at each of the stages.

(a) Intended learning outcomes identified in preactive stage one, before the learning activities are planned, were viewed by some subjects as providing a rational basis for long term planning. There was some evidence, however, that intended learning outcomes identified for the stimulus activity on the day of the interview, were not part of such a plan. It was also observed that some subjects seemed to have engaged in a rather haphazard type of preactive curriculum planning. The strongest influence observed seemed to be that of the perceived requirements of the Grade One curriculum.

(b) There was considerable evidence that teachers in this study did at times choose activities without having considered the purposes that might be served. Whether they then proceeded to identify the intended learning outcomes for these activities remains in some doubt. Because they did provide learning outcomes for these activities when asked to do so, the conclusion was reached that teachers may carry

around in their heads, as it were, at least some notions, albeit at times vague, for justifying the learning activities which they provide for the children they teach. The most important selection criteria, however, do not appear to be related to the planned learning which might result, but rather to whether the activity might prove interesting and fun to do with the children.

(c) Teachers were very articulate about their reasons for identifying intended learning outcomes interactively, much more so than for the other three stages. Most of these reasons were, however, related to the need to focus on the learner in developing a child-centered curriculum. In view of the finding that several teachers had not been aware, prior to participating in the stimulated recall interview, that they did identify learning outcomes interactively, the researcher concluded that the notion of identifying these outcomes during the activity had somehow struck a responsive chord in the thinking of these teachers or that, just possibly, it was perceived as a way of "letting them off the hook" for not having seriously considered intended learning outcomes during the preactive stages. Nevertheless, there were many sensible reasons given for using Stage III to identify learning outcomes, such as the importance of seeing how children react to the materials and activities with which they have been provided before deciding on specific learning outcomes.

(d) Although the teachers in this study did not use the post-active stage to any extent in connection with their stimulus activities, several subjects saw this stage as the best time to evaluate interactive learning outcomes and to use as a springboard for further planning. Since those who did use the postactive stage on the day of the interview,

appeared to use it for these two purposes, it was concluded that teachers might become better classroom curriculum developers if they were to become more adept at identifying intended learning outcomes postactively. There is also a suggestion that failure to evaluate instructional outcomes might be related to non-use of the postactive stage.

Question 6: What teacher background variables are related to the stages at which intended learning outcomes are identified?

There is some evidence that the tendency to prefer the preactive rather than the interactive phase to identify learning outcomes may be related to the extent of experience a teacher has had in the primary grades. Experienced teachers who had not had extensive experience teaching Grades 1 to 3, seemed to have adapted more readily to the process of identifying learnings interactively than those who had taught seven years or more in these grades. While age and length of experience were found to be somewhat related to a teacher's preference for either the interactive or the preactive identification process, the direction of the preference varied, with the result that findings in this area were inconclusive. It did appear, however, that observation skills and sensitivity to what children are learning, as distinguished from what the teacher has planned that they learn, are prerequisites for using all four stages effectively.

Use of Stimulated Recall Methodology

While the use of stimulated recall may have some limitations for investigating classroom curriculum development, it was found to be an appropriate methodology for studying the interactive decisions of

teachers which are believed to be important determinants of the "curriculum-in-action." There was strong evidence that the process had raised the level of awareness of the teacher's own interactive decisions and that it could possibly result in more effective curricular decision making. The methodology could also prove useful for teacher pre-service and in-service education.

Chapter Summary

This chapter has presented a discussion of the major findings and of the secondary purpose of the study. Although the findings seem to have raised as many questions as they have answered, a number of conclusions were reached. The following chapter will present a summary of the investigation and the recommendations for further research and teacher education.

CHAPTER 6

SUMMARY AND RECOMMENDATIONS

This chapter presents a summary of the investigation as well as the recommendations for further research and for teacher education.

Summary

This exploratory study was undertaken because little is known about the processes by which teachers develop their classroom curricula. Its primary purpose was to investigate the identification of intended learning outcomes by teachers who were engaged in classroom curriculum development. Six questions were formulated which served as a guide to the investigation.

1. At what stages do teachers identify intended learning outcomes?
2. What are the differences in the intended learning outcomes identified at different stages?
3. Are teachers aware that they identify intended learning outcomes at different stages?
4. To what extent is the identification of intended learning outcomes related to information obtained from observation of the learner(s)?
5. Are there any reasons, other than the need to focus on the learner, for identifying intended learning outcomes at different stages?
6. What teacher background variables are related to the stages at which intended learning outcomes are identified?

A secondary purpose for the study was to explore the use of stimulated recall, a methodology which has shown promise of yielding important findings in studies of teachers' thought processes, particularly those which have investigated the bases for teachers' interactive decisions. It was expected that the methodology might also be appropriate for investigating classroom curriculum decisions, especially during the interactive stage of teaching.

Four stages were identified during which teachers are believed to identify intended learning outcomes (ILO's). These stages, which correspond to the four patterns identified by Pylypiw (1974), are defined below.

Preactive stage one:	before the learning activities are planned and prior to instruction.
Preactive stage two:	after the learning activities have been planned and prior to instruction.
Interactive stage:	during instruction--while the learning activities are taking place.
Postactive stage:	after instruction--while the teacher is reflecting upon behaviors and events which were observed during instruction.

As a result of a pilot study carried out in the summer and fall of 1979, a decision was made to focus the stimulated recall interview questions on the teacher's intended learning outcomes, before, during and after the filming of a 20 to 30 minute segment of instruction.

Seventeen female teachers employed by both public and private operators of ECS programs made up the randomly selected sample. No attempt was made to control the task variables for the stimulus activity which was videotaped in each of the classrooms other than suggesting

that it be a teacher directed activity. An interview was held with each teacher on the same day as the filming during which the video recording was viewed by the subject and the investigator. The video recorder was stopped at several stimulus points selected by the investigator or the subject and the subject was asked to recall what she was thinking when the activity was going on. These interviews followed a standardized format with the exception that probing questions were allowed in addition to the 12 standard questions. The interviews were audio-recorded and transcribed. Personal and professional background data were obtained through a questionnaire completed by each subject.

A coding system was developed by the researcher to establish how many ILO's each subject had identified during the interview and to designate to which of the four stages each ILO belonged. A categorization system, adapted from Posner and Rudnitsky (1978) was used to classify the ILO's as cognitions, cognitive skills, psychomotor-perceptual skills, affects or social behaviors. They were also designated as general or specific and categorized as intended for one child, a small group or the entire class.

In order to answer the fourth research question, it was necessary to determine which ILO's were based upon information about children, either one child, the entire class, or children generally. This was done by examining the transcripts to identify statements about children and then relate these back to one or more of the ILO's identified by the subjects. Responses to several interview questions were used to determine what stages the subjects preferred, the reasons for identifying ILO's at the four different stages, and to what extent

subjects were aware of their own processes of identifying intended learning outcomes. Several assumptions and limitations inherent in the methodology were delimited.

Findings which were related to each of the research questions and to the secondary purpose of the study were presented in Chapter IV. The data showed that teachers did identify ILO's at all four stages, although not all subjects had ILO's in Stages II and IV. Stage III (interactive) accounted for the largest proportion of ILO's; however the combined total of ILO's identified during the two preactive stages was approximately equal to the Stage III total. ILO's identified preactively, but after the activities had been planned (Stage II), equalled the number identified at Stage I. Stage IV (postactive) had the least amount of ILO's of any of the stages. Cognitive ILO's dominated all of the stages except Stage III where they were equal in number to the combined social and affective ILO's. Psychomotor-perceptual skills appeared infrequently in the study but when they did appear they were identified more often in Stages I or II than in III or IV. There was some evidence that the preactive ILO's were not part of a consistent overall plan. There was even some doubt that many subjects had given explicit consideration to the learning outcomes they intended to have children achieve as a result of the activity filmed on the day of the interview.

The findings showed that these teachers were often not aware, at least at a conscious level, of the processes they followed in identifying ILO's. Several subjects were unsure whether they used preactive Stage I or Stage II. However, all subjects were able to rationalize the inter-

active identification of ILO's, even though they were previously unaware of this phenomenon, claiming that it was necessary so that they would be responsive to learners and could use the information coming from the children to decide what they were learning from the planned materials and activities. It was concluded that teachers who were most adept at identifying interactive ILO's were also the most aware that they were doing so.

In examining the reasons for using the different stages, it was found that some subjects had difficulty justifying all of the stages except the interactive. Stage I ILO's were seen as necessary for long-range planning, something that was remarkably conspicuous by its absence in most of the classrooms visited, for introducing new skills and for identifying the "academic things" children would need in Grade One. The strongest influence on the preactive planning of teachers in this study appeared to be their perceived requirements for success in the Grade One program: rhyming skills, letter/sound identification, correct formation of letters, beginning consonants, and appropriate group behavior such as sharing, taking turns, raising their hands before speaking. The researcher is of the opinion that, in the absence of a well-defined curriculum for ECS, the "subject matter" which influences most of the teachers' preactive planning decisions is the "academic" learning the teacher perceives to be a requirement for entry into Grade One. Those subjects who had extensive experience in the primary grades appeared to be the most concerned with these requirements. These subjects also tended to favor preactive identification of ILO's, although they were not the only ones in the sample to do so.

Although Stage IV was viewed by several subjects as the ideal time to reflect on the learning which had taken place during instruction and to identify new ILO's for another day, there was little evidence that the stage had been used for these purposes on the day of the interview. The relative absence of evaluative comments in the transcripts when subjects were asked about their postactive thoughts, may be responsible for the small number of ILO's attributed to this stage.

Information about children resulted in the identification of ILO's more often during Stage III than at any other stage. The bases for the identification of preactive ILO's, which appeared to be seldom based on information about children, were not adequately explored in this study. There was also a suggestion that teachers might not be accurately perceiving the extent to which they focused on the needs and interests of individual children in the ECS program, since the majority of ILO's at every stage, but especially in the preactive stages, was intended for the entire class and information about one child resulted at times in ILO's for the group rather than for an individual.

Each subject's observed stage preference was calculated as a ratio of the combined Stage I and II ILO's to the Stage III ILO's expressed as a percentage of each subject's stage totals. While all subjects used both preactive and interactive stages to some extent, some showed a preference for one rather than the other. The only teacher background variable to show a relationship to subjects' stage preferences was the length of teaching experience in the primary grades where the inclination was toward the preactive stage. These results are far from conclusive and require further investigation. A relationship was also

suggested between effective use of the interactive and postactive stages and a teacher's skill in observing children and in using information so derived for further preactive planning. It was thus concluded that while all four stages could be used appropriately for different purposes and situations, teachers may need to be more aware of their own curricular decision making processes in order to make better curriculum decisions.

There is also some evidence that the stimulated recall methodology may be a promising one, not only for the study of instruction and teacher behavior, but also for curriculum research. This last finding means that the methodology may indeed unite the concerns of researchers in both areas as suggested by Clark and Yinger (1977).

Recommendations

The recommendations contained in this section are of a tentative nature as were many of the conclusions on which they are based. Because of the exploratory nature of the investigation, the recommendations may not have the authority which only studies of a more rigorous nature could impart. The study does, however, appear to have implications both for further research and for teacher education.

For Further Research

The purpose of the exploratory field study is to lay the groundwork for later, more systematic testing of hypotheses (Kerlinger, 1973, p. 406). The significance of this study therefore lies mainly

in the direction which it provides for further research.

1. It is recommended that this study be replicated at a different level or levels of the education system and/or use a different context than the teacher-directed task which served as the stimulus activity in this study.

The findings of this study showed that a balance between preactive and interactive identification of intended learning outcomes may be desirable for the early childhood classroom. The data also suggest that an over-emphasis on preactively determined objectives may result in less use by the teacher, of children's ideas and their individual needs as a basis for curriculum decisions. Replication of the study at a level several grades removed from the kindergarten should reveal whether this is a characteristic only of early childhood teachers or whether it applies to Grade 4, 5 and 6 teachers as well.

There is no prescribed curriculum for the Early Childhood Services program in Alberta. Several teachers referred to this in discussing their reasons for using the interactive stage, stating that they didn't have to be as concerned with preactive identification of intended learning outcomes in the kindergarten as they would in the grades. Replicating the study at a level or levels where there is a standard curriculum should determine whether there really is a relationship between this variable and the stages at which teachers identify specific learning outcomes.

It is possible that the classroom activity used in this study

as the stimulus for the interviews may have influenced the kinds of intended learning outcomes identified and the stages at which they were identified. If the study were to be repeated, even at the kindergarten level, using a more open-ended activity, such as a pupil-directed interaction in a learning center, the results might reveal a relationship between the task variable and the identification of intended learning outcomes.

2. It is recommended that research be carried out to investigate other designs, also using stimulated recall, which give equal emphasis to the preactive, interactive and postactive stages.

The findings of the present study showed that far more intended learning outcomes were based upon information about one child, a specific group of children or children in general, during the interactive stage, than when these outcomes were identified preactively. This finding needs to be tested to see if the research design may have been at least partly responsible for the imbalance.

Although the postactive stage was seldom used by subjects in this study, when teachers did use it, however, it seemed to be a very effective technique for evaluating the learning which had occurred during instruction, and for further planning related to the needs and interests of individual children as revealed during the interaction. This finding also needs to be tested to see whether teachers do not use the postactive stage to any extent for the identification of learning outcomes or whether the research design contributed to what appeared to be a lesser degree of use by teachers in this study.

3. It is recommended that research be carried out to examine the relationship between the stages used to identify intended learning outcomes and teacher effectiveness measured in terms of pupil achievement.

This study showed that some teachers had a tendency to be preactive rather than interactive identifiers of intended learning outcomes, and vice versa. The data did suggest a relationship between an emphasis on preactively determined objectives and the proportion of intended learning outcomes identified, at all stages, for individual children, and intended learning outcomes which were based upon information about children both individually and generally. Further research is needed to show whether teachers who prefer to have their intended learning outcomes identified prior to instruction, are as effective as teachers who favor the interactive stage or use these stages to the same extent.

There was some evidence in this study that preactive identification of intended learning outcomes served different purposes than did the identification of learning outcomes interactively and postactively. Further research should focus on the kinds of learning situations and the kinds of learners for which each of these stages might be more effective than the others. For example, do developmentally delayed or children with handicaps benefit more or less than other children from being taught by teachers who exhibit different stage preferences?

This study also suggested that the postactive stage should be used to evaluate and plan future intended learning outcomes. Further

research might show whether there is a relationship between use of this stage and the effectiveness of subsequent planning by teachers.

For Teacher Education

Several findings in this study have implications for both the content and methodology used in teacher education programs for prospective and practicing teachers.

1. It is recommended that teacher education programs focus on planning processes which allow for several different models of curriculum development.

This study showed that, while teachers do use the objectives-first model for some types of planning, it is not the only model that they use. Teacher education programs, both preservice and inservice, should attempt to capitalize on what teachers do and assist them to identify for which purposes and under which conditions it may be appropriate to use one model rather an another.

Although there was little evidence of long-range planning in the classrooms used in this study, teachers often spoke of "on-going" objectives which they carried "in their heads." They did not appear to have considered whether they were providing a balanced program in terms of the different areas of developmental needs, i.e., social, emotional, physical, creative and intellectual. Attention should be given to ways of assisting teachers to develop comprehensive plans to meet the needs of young children and to evaluate the programs they are offering to see if they are meeting these needs.

The study showed that postactive evaluation of instruction in terms of the outcomes achieved or not achieved was not used as effectively as it might be as a basis for further planning. When it was, however, the result seemed to be future plans which were related to the observed needs and interests of children. More attention therefore should be given to this area of curriculum planning.

2. It is recommended that teacher education programs use stimulated recall as a tool for making teachers more aware of the different models of curriculum development and of situations where it is more appropriate to use one rather than another.

Subjects in this study reported that the stimulated recall interviews had been a thought-provoking experience and had made them much more aware of the bases for their interactive decisions. The methodology could have a similar effect if used in teacher education.

Although teachers-in-training hear a great deal about the "teachable moment" and practicing teachers claim that capitalizing on unforeseen events in the classroom is of utmost importance to effective teaching, there is a possibility that many of these moments often go unrecognized in the classroom. The teachers in this study reacted favorably to discussing what they had been thinking while the filmed interaction was taking place. Some even became aware of missed opportunities to capitalize on something a child said or did. Stimulated recall, like micro-teaching, could assist teachers to become more effective in recognizing and taking advantage of opportunities for

unplanned learnings which occur spontaneously in all classrooms.

This study showed that teachers may be neglecting the postactive stage as a time to reflect on the instructional sequence which has just ended. By reliving the interaction stimulated recall, it is possible that teachers might be assisted to evaluate more effectively and to use their findings as a basis for future planning.

These recommendations are consistent with the premise underlying this study that increased knowledge about the decision-making process might also serve to improve the decisions which teachers must make before, during and after instruction, with the ultimate benefits accruing to the children they teach.

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APPENDIX A

LETTER OF INTRODUCTION TO SUBJECTS

Letter of Introduction

Dear

As a graduate student enrolled in a doctoral program at the University of Alberta, I am carrying out a research project which requires the participation of a random sample of twenty E.C.S. teachers.

Little is known at present about the processes used by E.C.S. teachers to develop their curriculum plans. There is evidence however, that elementary teachers follow a variety of patterns in developing classroom curricula. The proposed study will add to our knowledge of this important area of education.

This letter is intended to solicit your assistance in the project. The plan is for me to spend an hour or two in your classroom and to videotape a half-hour segment of a teacher-directed activity. It would also involve a subsequent interview during which we would view together and discuss the videotape. The purpose of the research is not to evaluate your performance but to discover what patterns of curriculum development were used by you as an E.C.S. teacher.

I will be contacting you by telephone during the next week or ten days to answer any questions you may have and to further describe the project. At that time we would also complete the necessary arrangements for your participation in the study.

I would like to express my appreciation of your anticipated cooperation in this matter.

Sincerely,

Marjorie A. McLeod

APPENDIX B

STIMULATED RECALL INTERVIEW PROCEDURES

Stimulated Recall Interview Procedures

Preliminary Discussion with Interviewee

I: Some recent research has shown that teachers process a great deal of information and make a myriad of decisions while they are interacting with pupils in the classroom. Would you agree with that statement?

(Allow time for teacher to make a response.)

I: Very little is known however, about the kinds of decisions that are made in the classroom -- and that's the reason I am undertaking this project and asking you to help me discover more about these decisions. During this interview we will be viewing the videotape I made in your classroom today and I will be asking you to tell me whether you recall what you were thinking about at certain points in time. I will stop the videotape on these occasions and I will turn on the tape-recorder so that I may later transcribe your comments. My role during this interview is simply to assist you to recall what you were thinking while the activity was going on. Please do not concern yourself with how successful the activity was. That is not a focus of concern in this research. Do you have any questions at this point?

(Answer any questions the teacher may have.)

Procedures Followed While Viewing the Film

(Turn on the video-recorder and stop the tape at the point where the stimulus activity is about to commence. Then ask Items 1 and 2 from

the interview schedule.)

I: As you can see I am concerned with the specific learnings you wanted the children to gain from the activity that is about to commence. Whenever I stop the tape from now until the end of the filmed sequence, I will be asking you whether you were thinking at that point about the same or different learning outcomes and what effect these thoughts had on any of the things you said or did. I am particularly interested in things you say or do during the activity which you really hadn't planned beforehand -- that is, your spontaneous decisions.

(Pause for questions which teacher may have.)

I: I would also like you to ask me to stop the tape whenever you recall thinking about a specific learning for one or more of the children, especially if these learnings were in addition to the ones you've already mentioned to me.

(Briefly review the ILO's which teacher has already discussed.)

I: You should also ask me to stop the tape if you recall doing or saying something on the tape that you hadn't really planned to do before the filming began, or if one or more of the children says or does something that really surprises you or reacts to the activity in some way that you hadn't expected of them. Do you have any further questions?

(Pause for questions.)

I: Whenever you start to speak I will automatically stop the tape and turn on the microphone. Is that all right?

(The interviewer stops the tape at the following points:

1. The teacher singles out one child rather than another to do something or to answer a question;
2. When something a child says or does seems to surprise the teacher;
3. The teacher says or does something that seems unrelated to the intended learning outcomes she outlined before the viewing began.

Ask probing questions -- Item 3 in the Interview Schedule -- whenever the videotape is stopped.)

Procedures Followed After Viewing the Film

I: I would like you now to review the learning outcomes you had in mind at the beginning of the activity and then to answer a few more questions. (Proceed with Items 4 through 9)

I: There are some researchers who believe that teachers think about the learning outcomes they hope will be achieved by their pupils at four distinct stages:

Stage I: This is when you identify the intended learning outcomes before you decide what kind of learning activities you will carry out with the children.

Stage II: This is when you decide to carry out a certain activity and then think about what the children are intended to learn from it.

Stage III: This is when you identify the specific learnings that are occurring or that you want to have occur while the activity is going on, that is, when you are interacting with the children.

Stage IV: This is when you identify what the children have learned, or what it was that you wanted them to have learned from the activity, after the interaction is over, that is, the activity has been completed.

Do you have any questions at this point?

(The interviewer places a card with a brief definition of the stages in front of the teacher for ready reference during the remainder of the interview. The taperecorder is turned on and the final three questions of the interview schedule are posed. When the interview is terminated the interviewer thanks the teacher and assures her that she will get a copy of the major findings when the study has been completed.)

APPENDIX C

STIMULATED RECALL INTERVIEW SCHEDULE

Stimulated Recall Interview Schedule

(Prior to Viewing Stimulus Tape)

Item 1 At this point (just prior to the beginning of the filmed activity) did you know what you intended the children to learn from this activity?

Item 2 Had you decided on those specific learnings before you chose (or planned) the activity or after you chose the activity?

(During the Viewing Whenever Tape was Stopped)

Item 3 Is that something you expected to happen? Do you remember what you were thinking just then? Do you remember what you were thinking when you (or a child) said or did that?

(After the Viewing)

Item 4 Did what you intended the children to learn change during the activity?

Item 5 Did you add any new learnings as the activity progressed? Did you leave any out that you had planned to include? WHY?

Item 6 As you think back now, or since the activity ended, is there anything else you think the children might have learned from the activity or sequence of activities that we have just viewed?

Item 7 Is there anything that you plan to do with the children tomorrow (next week) as a result of what happened during this activity today?

Item 8 Were you aware that you were adding to or leaving out any of your intended learning outcomes while the activity was taking place?

Item 9 Does this surprise you? Why or why not?

(After Explanation of Stages)

Item 10 At which of those four stages do you prefer to identify learning outcomes? Why does that seem to work best for you?

Item 11 Is there any difference in the kinds of learning outcomes which you identify before, after, or during a learning activity?

Item 12 Do you think that an overemphasis on pre-determined learning outcomes could have a detrimental effect on a teacher's effectiveness in an early childhood classroom? Why?

APPENDIX D

PERSONAL AND PROFESSIONAL QUESTIONNAIRE

PERSONAL AND PROFESSIONAL QUESTIONNAIRE

The following information is required to help describe the sample group used for this study. This information will not be used for the purpose of attempting to identify the participants.

Select the response which is most correct and enter the numeral which identifies the answer in the space provided under the heading "Answer Column."

Please answer all questions as accurately as possible.

Answer Column

1. Sex:
   1. Male
   2. Female

   ____

2. Age as of March 1, 1980:
   1. Under 20 years
   2. 20 to 29 years
   3. 30 to 39 years
   4. 40 to 49 years
   5. 50 to 59 years
   6. 60 years or over

   ____

3. Most current teacher's certificate held:
   1. Professional
   2. Standard Elementary
   3. Standard Secondary
   4. Junior Elementary
   5. Provisional
   6. Conditional
   7. Other (Specify) _____

   ____

4. Total years of teaching experience in Grades 1, 2, or 3:
   1. 2 years or less
   2. 3 to 5 years
   3. 6 to 10 years
   4. 11 to 15 years
   5. 16 to 20 years
   6. 21 years or over

   ____

5. Total years of teaching experience above Grade 3:
   1. 2 years or less
   2. 3 to 5 years
   3. 6 to 10 years
   4. 11 to 15 years
   5. 16 to 20 years
   6. 21 years or over

   ____

6. Total years of teaching experience in E.C.S. in Alberta: (Include current year as one year.)
   1. 1 year
   2. 2 years
   3. 3 years
   4. 4 years
   5. 5 years
   6. 6 years or more

   ____

7. Total years of experience in preschool programs other than E.C.S. (e.g., day care, nursery school, etc.):
   1. 2 years or less
   2. 3 to 5 years
   3. 6 to 10 years
   4. 11 to 15 years
   5. 16 to 20 years
   6. 21 years or more

   ____

Answer Column

8. Total number of years of post secondary education (beyond the completion of matriculation):

1. 1 year	4. 4 years	
2. 2 years	5. 5 years	____
3. 3 years	6. 6 years or more	

9. Source of professional teacher training:

1. University of Alberta	4. University outside of Alberta	
2. University of Calgary		____
3. University of Lethbridge	5. Other (Specify) _____	

10. Source of other professional training:

1. Mount Royal College	4. Grant McEwan College	
2. Red Deer College	5. Other College(Specify) _____	____
3. Grande Prairie College		

11. Under the headings which appear below, provide information about completed university or college courses which you think have assisted you to develop curriculum plans for your E.C.S. program.

EXAMPLE

	Course Description	Course Number	Source	Year
	Curriculum and Instruction in Early Childhood	Ed.C.I. 404	University of Alberta	1974
i)				
ii)				
iii)				
iv)				
v)				
vi)				

12. Under the headings which appear below provide information about professional development activities (other than university or college courses) which have assisted you to develop curriculum plans for your E.C.S. program.

EXAMPLE

	Nature of experience	Location	Sponsor	Year
	Two-day workshop on learning disabilities	University of Lethbridge	Alberta Association for Young Children	1979
i)				
ii)				
iii)				
iv)				
v)				

Thank you.

APPENDIX E

RESPONSES TO ITEM 9: ARE YOU SURPRISED THAT YOU WOULD MODIFY YOUR INTENDED LEARNINGS DURING THE ACTIVITY? WHY?

Responses to Item 9: Are You Surprised What You Would Modify Your Intended Learnings During the Activity? Why

I. Subjects Who Were Aware (Had Responded Yes to Item 8)

S 01 Well I feel that if you don't take a bit of time right then to give them some new information it may be left and you may never get back to planning something to accomplish certain learnings . . . So it's a quicker way of accomplishing more. Not all the children are going to really get it but some will who might not have had that particular concept presented to them before.

S 02 You know what you want to accomplish but you have to be open to other learnings that you hadn't planned whenever they arise because you want to make their time with you as valuable as possible and capitalize on what they bring out to extend (what you had planned) . . . I think it comes with experience.

S 05 Five year olds are so changeable from one day to the next or from one five minutes to the next and however they respond is what determines the learning outcomes . . . things crop up while you're in the process of working with them that you can't predict ahead of time.

S 06 . . . I think that's a test to me of a good ECS teacher if she can go along with what the children are bringing out to her. If she just has to bulldoze her way through and say "By golly, I'm going to get this unit plan done" I think that's destroying the whole idea of ECS, which is to draw out of children their learnings and introduce through their learnings what you wanted them to learn, and also to expand on their learnings (what they already know).

S 07 As far as I'm concerned I do that constantly . . . because I feel that you simply have to, you know, work with the children you have in front of you. You can plan a most marvellous lesson . . . and . . . you know, the whole thing can be changed. So if you're not ready to adapt then your whole lesson goes up the spout.

S 08 . . . because there are certain things that we do in class that I know some children will benefit from much more than others, and doing them in a group of 25, you know, which I do very often, you have to make amends by giving certain tasks to some children and not to others . . . although I don't think it is premeditated. You just sort of do it spontaneously. Yes, I think I was aware of it, especially the effective ones.

S 09 . . . you take your understanding of where that child is at this point, like Jeff remembering that he was supposed to put his hand up and correcting his own behavior, and your expected behavior, what you want from the child at this point, and they just kind of mesh. When a child responds in a way that you don't expect, you have to change what you intend them to learn . . . I can gain more from them as to where they are, like their understanding, by having them tell me and then I can take it from there and modify my plans as a result.

S 12 . . . each group of children is different and I just go according to their interests and according to what the children already know . . . what they'd like to know and what their interest is, and you can't tell that until you're actually talking to them . . . Like there will be general objectives. What specific content we will cover will depend upon the children's interests and previous knowledge of the topic.

S 15 . . . a lot of what I do evolves as I do it. I suppose the more experienced I get, the more times I've done things, the more I get into adding new learnings. I think it tends to vary with the type of activity and whether it's structured or not.

S 16 I think that teachers who overemphasize predetermined objectives tend to miss . . . a lot of opportunities to observe what children are in fact learning or to limit the opportunities which they provide for children to learn something worthwhile even though it wasn't preplanned . . . Like I would count myself guilty of hanging on to a planned objective this afternoon even though I could see that it wasn't working the way I had planned it.

II. Subjects Who Were Not Aware (Had Responded No to Item 6)

S 03 No, not now that I think about it. After all, they're all individuals with different backgrounds and what they bring to the activity is bound to change the learning that I had planned would occur.

S 04 The thing is that . . . you pick up a lot from the kids, so that when you really stop and think about it, I'm not surprised because the kids are always supplying neat new things . . . and they're always teaching each other things, you know.

S 10 If they look bored or it seems too easy I change the activity and the intended learnings. Like the chalkboard and the magnetic letters is out and for some kids it's just to get them in alphabetical order . . . or say what letter it is. Well, _____ was playing with it and I noticed that he was putting together words like "six" and "ten" . . . so I said, "Can you find the letters for the days of the week? Can you find Monday?"

S 11 No, I think you just do it without being aware of it . . . If it's a good lesson (plan) you extend it. If it's a lousy lesson, you cut it short. If you feel that you haven't got them with you and if it should go in to file 13 or done the next day, I just scrap it at that point.

S 14 To me it's the natural way with young children because the learnings are so much a part of the child and you have to be aware of them and keep your expectations open to accommodate what comes up during the interaction.

S 17 No, not really, because my main objective is the child's self-image and socialization, the child's ability to relate to his peers . . . and I can't predict what the specific learnings will be until I see how the kid responds during the activity.

S 13 Well these learnings occur because they're involved in it and they're interested in it right there. I want them to like this environment. I don't want any negative reactions and so I don't want to impose what I think they should be learning on them if they don't feel that they're particularly interested in it. I mean there's such a difference in what they come with and where they're at for everybody . . . to actually get something out of it. I think it's better that they pick up the things themselves and they realize what it is and I can sort of give them any help from that point where they're at.

APPENDIX F

EXAMPLES OF COMMENTS REFERRING TO INFORMATION ABOUT CHILDREN

EXAMPLES OF COMMENTS REFERRING TO INFORMATION ABOUT CHILDREN

A. Information About One Child

S-01 I was quite impressed with her today because she seemed to be listening better than she does most of the time.

S-02 Because right now I had not noticed it until now until I asked him incidentally to go to the chalkboard and make the numeral five and he bogged down completely.

Like I have a little girl who does not interact verbally at all, both Mom and Dad are deaf and she comes here and she seems happy and is willing to participate in all the activities but she will not verbalize.

S-05 He came back and his Mom told me that he had discovered a new friend at school, an imaginery child named Mark, and he would go home and tell his Mom that this child wasn't very nice to him.

S-07 And I know that he plays a lot with trucks at home. I was also thinking that he might say train, because he has a train at home, but his friend, his bosom buddy, is away today and he's sort of sitting there. He doesn't mingle with the other children very much.

_____ is a very sloppy child, he does such messy work, and today, for some reason or other, he got such nice quality that I thought it should be recognized.

S-10 . . . it's quite funny how one day it was just blowing, the windiest day of the year, and yet the little boy who was doing the weather said "No, it wasn't windy out."

S-15 I was thinking that she was hearing the ending of the word rather than the beginning sound.

S-16 _____ also at the sand center earlier in the day felt that things should be red if they're hot.

B. Information About A Specific Group of Children

S-03 And I think I'm also going to work more on direction because I think the class as a whole could use more practice on that.

S-04 Well, a lot of conversation does go on between them and that kind of thing, because they'll talk about what they're going to say to each other before they put their hands up.

S-05 I had noticed that some of them were drawing vegetables and not putting faces on them.

S-06 And we have several children in our class who are very conscious of the fact that one or two of them have glasses and that one or two of them are different. Some of them stutter and some of them have a hard time holding things with their hands.

S-07 And to express, like these children need to have a lot of verbal practice and so if they can express what they're thinking of, it's much better.

S-10 My reason for choosing nursery rhymes is that some of them don't get to hear them otherwise.

S-11 And like I decided that since I have those two new children in the class I've got to get in more alphabet and numbers.

S-15 These children are still needing to learn to distinguish between letter shapes and to learn to recognize and name letters.

S-16 Well I always try to relate everything we do to something the children are familiar with and several of them have been to Hawaii.

Well, that's something I hadn't seen him do before. He had printed all the words for his sentence himself.

C. Information About Children in General

S-02 Because children often confuse soft and smooth.

S-06 I think in kindergarten, it's important that they learn some sort of behavior pattern which will carry over into Grade I. And when they get into a Grade I situation, they have to raise their hand in order to speak.

S-08 You look for the quiet people and praise them and it works.

S-09 Many children are frightened by the idea of going to a hospital.

Sometimes you will ask children something and they're flabber gasted because they don't remember and it's just like . . . you know, there's no link into what you're saying.

I just thought that they should be able to remember that since ice cream and cold drinks are favorites of children.

S-13 One of the reasons being that they'll do a better job because everybody gets to look at it.

APPENDIX G

REASONS GIVEN FOR IDENTIFYING ILO'S DURING STAGE THREE

Reasons Given For Identifying ILO's During Stage Three

Category I: The Need to be Flexible and Responsive to Learners

S 01 I feel that if you don't take a bit of time right then . . . you may never get back to planning something to accomplish certain learnings.

S 02 You have to capitalize on what they bring out (during the interaction) to extend the learning that occurs.

S 03 I think a teacher should be aware of learnings that happen even though she hadn't planned them . . . because the children are all different and they bring their own background to an activity . . . it depends on the way they react to an activity. You can think of some learnings that may occur but not all.

S 05 However they respond is what determines the learning outcomes. Things crop up while you're working with them that you can't predict . . . you have to be flexible and allow for whatever comes out of the activity you've planned.

S 06 The whole idea of ECS, which is to draw out of children their learnings and introduce through their learnings what you wanted them to learn and to expand on their learnings. You give them information, say through a film, and the new learnings are identified through the information that is coming back to you. You have to twig to what they're saying they have learned.

S 07 You simply have to work with the children you have in front of you so you're constantly changing how you do things . . . suddenly something else happens and the whole thing can be changed, so if you're not ready to adapt then your whole lesson sort of goes up the spout.

S 09 You take your understanding of where a child is at this point and your intended learnings and they mesh. When a child responds in a way you don't expect, you have to change what you intend them to learn.

S 14 You have to keep your expectations open to accommodate what comes up during the interaction.

S 15 I think it is important for early childhood teachers to be open to new learnings . . . if you're not open to taking advantage of situations as they change then obviously you're going to miss opportunities to encourage new learnings.

S 16 I think teachers who overemphasize planning with pre-determined objectives tend to miss out on a lot of opportunities to observe what children are in fact learning or to limit the opportunities which they provide for children to learn something worthwhile even though it wasn't pre-planned . . . a teacher must have objectives but I don't think they should get so hung up over them that they miss the input that is coming from the children.

S 17 They're not an empty vessel, kids, and I don't like the idea of laying it on, laying it all out for them. They usually know more than we think they do and you have to pull it out (and) . . . draw on their background of experience. Someone once said "walk in with good material, but remember the best material is sitting in front of you.

Category II: The Nature and Characteristics of Five-Year-Olds

S 04 You pick up a lot from the kids at this age and they're always supplying neat new things and they're always teaching themselves other things.

S 05 Five-year-olds are so changeable from one day to the next and however they respond is what determines the learning outcomes . . . they're kind of trying to discover who they are.

S 06 With five year olds . . . you have to be prepared to flow in the direction indicated by the children.

S 07 It is a different learning situation in kindergarten and their learning methods are different and so . . . you have to be prepared to change activities and planned learnings very quickly. If they're interested in something then you start there, and if they're not interested then you wait a little bit.

S 12 Each group of children is different and I . . . find it easier just to go along with what they know, what they'd like to know and you can't really tell until you're talking to them and I mean it varies with the day too, it varies with the group of kids (at this age).

S 13 I mean there's such a difference in what they come with and where they're at for everybody to . . . get something out of it, I think it's better that they pick up the things themselves . . . and I can sort of give them any help from that point.

S 14 To me it's the natural way with young children because the learnings are so much a part of the child.

S 15 I would expect they (objectives) would be expanded or modified in some way . . . Because children aren't static and we're interacting all the time and they're interacting among themselves . . . and so every situation is different.

S 16 It's so individualized, with any activity you do in ECS, they're all going to be learning something different. At this level the materials tend to involve them, that's their first interest rather than the understandings I want them to develop.

Category III: The Need to Accommodate Individual Differences

S 02 I'm sure they learned some things (in the centers) that I really hadn't planned but I wouldn't know what these are unless I'm there actually watching them like I was with ____ in the sand center.

S 03 That is when I'm getting feedback from the children and finding out what they are doing with what you provided for them.

S 04 You can adapt the activities to the individual child while the interaction is going on because the same activity doesn't provide the same learning for each or for every child.

S 09 I use Stage Three more when I'm working with one or two of the children in the learning centers when it is possible for me to see how they're using the materials and what their needs are. That's when I identify specific things that they can or can't do.

S 10 If an activity seems too easy for a child I change the activity and the intended learning (during the interaction).

S 11 I probably use Stage Three more (at the first of the year) . . . Later on, when I get to know what the children can and cannot do, then my planning becomes more structured. But at the beginning of the year I don't do as much pre-planning of what I want them to learn . . . I'm looking at individual children to find out where they're at.

S 15 Stage Three ILO's are probably more individual and more specific . . . I might see the children using the equipment in some way I hadn't visualized (before) . . . and then I would maybe build upon that or bring out what it was that they were learning.

S 16 The hitch is that with your wide range of abilities . . . the real challenge is trying to find out and know where each child is and trying to sort of build on that, encourage them to build on it. During interaction I identify intended learnings more on an individual than a group basis. I

anticipate what they might learn but the learning that actually occurs might be completely unrelated to the activity itself.

Category IV: To Identify Social and Emotional Outcomes

S 04 They are the things that are more social and emotional, like feeling good about yourself. . . More of the academic things are identified before (the activity begins).

S 05 It would probably have more than anything to do with moods and emotions and how _____ is reacting to _____ that particular day.

S 08 The affective outcomes usually happen (during interaction) when you are consolidating rather than introducing a new skill.

S 13 I guess it's because I'm not imposing my ideas (during interaction). I want them to come here and to enjoy it . . . and so I don't want to impose what I think they should be learning if they don't feel that they're particularly interested in it.

S 16 Stage Three is when I can see how they are reacting to the activities, are they getting involved and enjoying it . . .

S 17 No, (I'm not surprised) because my main objective is the child's self-image and socialization, the child's ability to relate to his peers. And during the activity is when you find out about the kid . . . (and) how he responds during the activity.

Category V: It Comes With Experience

S 02 I think it comes with experience. You know what you want to accomplish but you have to be open to other learnings because you want to make their time with you as valuable as possible.

S 06 I really hope that after I learn and I have more experience I won't have to do all this identifying of objectives ahead of time. I hope that with experience I can do less Stage One and more Stage Three identifying of learnings.

S 15 I've been teaching 4 and 5 year olds for about 5 years now and when I first began I suppose I was more rigid, I didn't take advantage of changing situations (to change my ILO's) as I do now.

S 17 I would like to get to the stage where I would use (Stage) Three most of the time, then four would be automatic. Like

you couldn't have (stage) four without three. I think I use all four, this is my third year of teaching.

Category VI: No Set Curriculum

S 05 We don't have a set curriculum, just suggested guidelines and activities. It's not required that we follow any set curriculum, which is a good thing with these little people. It has to be so child-oriented and it has to be changing from one day to the next . . . that's what a five year old is all about, always changing, and I think if you're limiting yourself to pre-planned objectives, you won't be able to accommodate to the way they are.

S 07 There's not set curriculum for ECS and the children are certainly a lot different . . . The children don't sit in rows and their learning methods are different and so therefore you change activities very quickly . . . because their concentrations skills aren't that way.